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A Weekly Journal of Pharmacy and the Drug-trade.

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S U B S C R I P T I O N R A T E S.

Ten shillings a year in advance, post free to any part of the world, including a copy of *The Chemists' and Druggists' Diary* next published. Single copy, 4d.; Summer or Winter Number, 1s.; Diary, 3s. 6d. Postal orders and cheques to be crossed "Martin's Bank (Limited)."

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The Chemists' and Druggists' Diary, 1907.

39th Year of Publication.

Preliminary Notice.

THE preparation of this work has already commenced, and advertisers who wish to avail themselves of the opportunity of making their announcements in the new volume should make sure of getting space by addressing the Publisher of THE CHEMISTS' AND DRUGGISTS' DIARY, 42 Cannon Street, London, E.C.

The DIARY is presented free to all subscribers to THE CHEMIST AND DRUGGIST, and being in daily use by thousands of our readers throughout the year is the most esteemed and valuable advertising-medium of the kind in the world. Remember that with our unique foreign and colonial circulation it is necessary to go to press at an early date, so that the DIARY may be delivered to subscribers abroad before Christmas.

Summary.

The subjoined paragraphs give the gist of the more important matters in this issue, with the object of showing at a glance what has happened during the week. See also "Contents" in the first column.

THE chief points of the proposed new Transvaal Opium Ordinance are given on p. 292.

THE RESULTS OF DRUG-ANALYSES in some of the London boroughs are given on p. 289.

SOME ANALYSES OF SHEEP-DIETS are given on p. 307, taken from the Cape analyst's annual report.

SOME NOTES on the annual meeting of the Deutscher Apotheker Verein are given on p. 295.

MR. C. C. BELL calls in question the Oxford Dictionary definitions of "drug" and "pharmacopœia" (p. 317).

THE ADVERTISEMENTS of three forgotten proprietary articles from a newspaper of 1724 are reproduced on p. 311.

THE STAFF of the Georgetown Department of Agriculture have had narrow escapes from poisoning by arsenic (p. 296).

THE NOTE ON DISPENSING-CHARGES which the Melbourne chemists' price-list contains is applicable to all parts of the world (p. 294).

THERE ARE SOME INTERESTING LETTERS on window-dressing on p. 316, and we give on p. 302 some hints on how to write window-tickets.

ENGLISH BUSINESS HOUSES are stated to cause trouble in the United States by insufficiently paid postage on business letters (p. 301).

ARRANGEMENTS are being made by which firms sending catalogues to South Africa can pay the duty instead of the receiver (p. 292).

"XRAYSER" shows that although scientific men are not satisfied, the State already pays out large sums for scientific investigation and more for education (p. 301).

THE PHOTOGRAPHIC NOTES on p. 311 are *à propos* of the best preservative to use in the developer, uranium toning, and the cause of granular deposit in negatives.

THE MINIMUM DISPENSING PRICE-LIST of the Natal Pharmaceutical Society is given on p. 293. The prices should be compared with those of the Liverpool Association.

THE PAGE headed "Here and There" (p. 310) gives some interesting notes on the pharmaceutical features of some French towns, and several anecdotes with a pharmacy flavour.

NOTES on styracol, isotachiol, mergal, estoral, and eutannin are given under the heading of "Scientific Progress" (p. 300), and two new pieces of chemical apparatus are figured.

A CLAIM for loss of dispensing was heard at Birmingham last week in which, owing to an agreement between a dispenser and doctor, the former obtained 150*l.* damages (p. 306).

TWO INQUESTS in which children's powders were called in question are reported on p. 289. At another inquest accusations as to the supply of lead pills by chemists were made (p. 290).

THE REGULATIONS under the Pure Food Act of the Australian Commonwealth are to come into force on October 1. The two which are important to exporters of druggists' wares are given on p. 294.

WE GIVE SOME INFORMATION on the experimental camphor-planting which is taking place in Ceylon. So far paying quantities of camphor have not been obtained, but there are hopes for the future (p. 303).

A COMPLETE SET OF PAPERS given to a candidate at the May examination of the Transvaal Pharmacy Board is printed on p. 299. These are useful for comparison with the papers set in Great Britain and Ireland.

A DANISH PHARMACIST has given us an account of the education and examinations necessary to qualify as a pharmacist in Denmark, together with some particulars of the actual practice of pharmacy in that country (p. 298).

THE SCHEME OF HOME STUDY which is being unfolded in the "Corner for Students" deals with analytical work, the chapter being particularly valuable to assistants and apprentices who are taking up science subjects in the coming winter (p. 288).

MARKET CHANGES are mostly slight this week; they include a further advance in foreign citric acid, while French lavender oil, high-test cassia oil, caraway, eumin, and fenugreek seeds, benzols, and quicksilver (seconds) are all firmer or higher. Ordinary makes of copper sulphate and turpentine are easier. The auction of first and second hand goods is fully reported on p. 312.

Corner for Students.

Note.—The analytical exercises conducted by Dr. Leonard Dobbin will be resumed towards the end of September.

A SCHEME OF HOME STUDY.

By DAVID J. WILLIAMS, F.C.S., Pharmaceutical Chemist.

Practical Chemistry (continued).

WITH regard to the text-books which are most suitable for a beginner, there may be mentioned Brigg's (University Correspondence Series), Jago's, Muter's, Newth's, and Tiliden's. Of the above-mentioned the practical work set in Jago's "Elementary" will be found to be very clearly put, but it has to be supplemented subsequently, as settled by the teacher of the practical chemistry class which our student is presumed to be attending. At these schools it is usual for the beginner to prepare at the outset various elementary substances, such as the gases hydrogen, oxygen, chlorine, etc., and at the same time he has to examine their properties. This is an excellent arrangement, since it links up immediately the theoretical part with the practical. He learns by this means to understand such methods as upward and downward displacement, he obtains some idea of the quantities necessary to produce a requisite quantity of gas, and also he will become familiar with its solubility or insolubility. After this a short course of blowpipe-analysis is advisable, and is frequently carried out.

The tyro is now ready to proceed with the analysis of a simple salt, and this he should thoroughly master ere he enters on the analysis of the double salt; in fact, he may often leave this till he enters college if his time is curtailed. In most cases, however, he will be able to tackle the latter during his third year or so, and he will then obtain excellent practice and check upon his progress by taking up the analysis of substances supplied in the prize competitions in connection with these columns.

Returning to our plan of work, it must here be emphasised that every attempt should be made to explain every step while proceeding. It is only in this way that the young analyst can hope to be able to modify his processes to suit any emergency. The best analysis-book written can never put in the few pages at its disposal anything more than the mere skeleton of his work. He has to fill in the rest himself by means of his own experience and that of his teachers.

So much for the qualitative work. There is a considerable amount of quantitative (volumetric) work to be done. Turning to the official syllabus the student will note the following wording :

To perform those volumetric determinations which are described in the British Pharmacopœia. To understand the principles of volumetric analysis, and to prepare, standardise, and use volumetric solutions.

The italicised phrase is of the utmost importance. If the student understands the principles of volumetric analysis, he will be able to do at his leisure any of the other processes stated. Therefore it is expedient that he should, before attempting to carry out a large number of tests, apply himself to understanding the why and wherefore of the whole thing. What are the "principles"? Why, nothing else than equations put into practice. Suppose the student does the simple processes of measuring the amount of acid by adding to it a known solution of standard alkali, and *vice versa*, over and over again, he will, it is hoped, not only be able to see through the routine practical part, but also be capable of working out the mathematical part of the process clearly. What has he done in these simple operations? Suppose he has worked with caustic soda and sulphuric acid, then his knowledge of reactions and equations representing them tell him that the shorthand of his experiments is



Two molecules of sodium hydroxide saturate or neutralise one molecule of sulphuric acid, therefore 39.76×2 of the former equals 97.54 of the latter, so that the known weight of the alkali in the standard solution gives one the

equivalent of the acid to be determined. The student should assure himself of such fundamentals before he attempts the more complicated estimations with bichromate and permanganate. He will by this time have become adept with the use of the burette, pipette, flask, and indicator. Fortunately the questions set in the examination are not as a rule of a complicated nature, but they usually aim at finding whether the student *does* understand the aforesaid principles, and not whether he can perform a certain number of B.P. tests in a minimum amount of time. As the official syllabus gives great scope to the examiner in his selection of questions in this subject, the student should, as he goes along, familiarise himself as much as possible with the tests set in his standard book. An industrious student may use many a ten minutes for this purpose, and if he turn to his B.P. and search for himself he will soon realise how many simple tests he can become practically familiar with. It is the utilisation of these spare moments that makes all the difference between the successful, clear-headed worker at college and the man who has to wade through his work muddled and discouraged at every step. Much of the work, however, will usually be left for the college course, such as quantitatively determining alkaloids in extracts and the preparation and estimation of such things as ethyl and amyl nitrites.

To summarise the whole scheme, it may be pointed out that the student should attempt (1) to gain a general idea of the principles of practical chemistry, (2) to cultivate good habits in working and in study, and (3) to supplement this with as much of the B.P. practical as his time will allow. With such initial knowledge the whole may be moulded and rendered compact in his subsequent collegiate career. Finally, attention should be drawn to report-writing. It should be understood by every candidate for any examination that unless he presents clearly all that he knows of a subject, he is seriously handicapped. He must realise that his examiner has no more knowledge of him than is represented on the sheets of foolscap at his disposal. Many a good scholar has found with disgust that he has failed owing to laxity in report-writing. Constant practice is the secret of success in this direction. Verbose statements of work should be avoided. A report, while being as concise as possible, should, however, leave nothing for granted. It should be kept parallel with the work done, and not be entered up subsequently.

As a guide to progress it may be said that a certificate in the Advanced Stage of Practical Chemistry, South Kensington, places the student on the road to practically certain success.

Next week physics will be dealt with. This series of articles commenced in the *C. & D.*, July 7.

English News.

Local Newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

Brevities.

Miss J. Patton has resigned her post as dispenser to the Guardians of the Bolton Union.

The annual meeting of the British Medical Association in 1907 is to be held at Exeter. It is more than fifty years since the Association visited that city.

Twenty-one tubes of diphtheria-antitoxin, containing a total of 84,000 units of serum, for the treatment of patients, were supplied gratuitously by Greenwich Borough Council during the year.

A cart laden with carboys of sulphuric acid was travelling up Vauxhall Bridge Road, London, from the Standard Ammonia Chemical-works, Old Ford, E., on August 11, when one of the carboys broke and the contents poured into the road.

Mr. Harry George, chemist, Ystrad-Rhondda, has patented a simple but effective window-catch, the advantages of which are safety to fingers if sash-cords snap, and windows can be left open both top and bottom for ventilation-purposes.

At the Essex Quarter Sessions on August 8, Alfred Miller, described as a chemist, was sentenced to three

years' penal servitude for obtaining 1*l.*, by means of a bogus cheque, from the Rev. S. W. Thackeray, D.D., of Roydon.

John Rooke, the son of a doctor, with a brother in the profession, and himself a dispenser in the service of a doctor at Accrington, has been fined 20*s.* and costs for stealing, after a drinking-bout, a suit of clothes belonging to a fellow-lodger named Hynes.

In Islington last year 3 tons 10 cwt. of carbolic powder was distributed gratuitously to householders, as well as 180 gals. of carbolised creosote, 2 gals. of clear carbolic acid, 1 cwt. 1 qr. 16 lb. of formaldehyde tablets, and 20 gals. of formaldehyde solution.

At Manchester City Police Court on August 8, Dr. Edward Proudflove, of Burnley, was charged with having attempted suicide by swallowing fifteen opium pills. Defendant said he took the pills because he was depressed, but not with the intention of suicide. He was released on promising to return home to his friends.

Walter Bayliss, described in some newspaper reports as "formerly in business as a chemist at Morpeth," shot his brother's wife, her two children, and himself at South Shields, on August 13. Bayliss (whose name is not on the Register of Chemists and Druggists) went through the Boer War with the Yeomanry.

At the annual meeting of the Royal Botanic Society, London, on August 10, at which about 100 Fellows were present, a ballot for the election of the Council took place—the first time such a thing has happened in sixty-seven years of the Society's existence. The nominees of the Council were all re-elected, no nominee of the reform party being successful. The Duke of Teck was re-elected President and Mr. G. J. Marjoribanks Treasurer.

Drug-analyses.

In Fulham six samples of drugs were analysed during the past year. All were genuine.

The public analyst for Greenwich examined during the year samples of boric ointment (1), camphorated oil (2), cod-liver oil (4), glycerin (1), and olive oil (2), and all were genuine.

In Marylebone during the past year the following were analysed and found to be genuine: Chloroform (1), sodium bicarbonate (1), tartaric acid (1), citrate of magnesia (1), and infants' foods (15).

In Islington 74 samples of drugs were analysed, including lime-water (20), linseed meal (4), glycerin (4), sweet spirit of nitre (1), compound liquorice powder (12), cod-liver oil (12), compound tincture of rhubarb (6), soda-water (2), lithia-water (1), potash-water (3), and camphor-water (6). The adulterated samples were lime-water (1), sweet spirit of nitre (1), compound liquorice powder (2), and compound tincture of rhubarb (1).

In Westminster last year the following were examined. Where not otherwise stated the articles were genuine: Prescriptions, 18 (5 adulterated, 1 prosecution, 1 conviction, fine and costs imposed 1*l.* 2*s.* 6*d.*); crushed linseed, 8; sugar of milk, 7; cod-liver oil, 8 (1 inferior, but not adulterated); borax-and-honey, 5; lime-water, 18; distilled water, 9 (1 inferior, 1 adulterated, but not sufficient to warrant prosecution); chlorodyne lozenges, 1; lime-juice, 8 (5 adulterated by the addition of salicylic acid, varying in amount per pint from 0.656 to 2.97 grains, vendors cautioned); and almond oil, 10.

In Southwark last year the following were found genuine: almond oil (2 samples), eucalyptus oil (9), camphorated oil (6), linseed oil (1), cod-liver oil (6), milk of sulphur (7), citric acid (6), calcined magnesia (4), glycerin (6), lime-water (1), lemonade-powder (1), soda-water (2), lemon-squash (3), Gregory's powder (1), compound powder of liquorice (5), ginger-wine (2), orange-wine (3), peppermint cordial (1), and castor oil (2). Four lemon-squash samples were adulterated, as well as four lime-juice cordial, one ginger-wine, two orange-wine, and one peppermint cordial, but none of the foregoing cases of adulteration were deemed to be sufficiently serious to warrant prosecutions, with the exception of two of the samples of lime-juice cordial. These were certified to contain 6 grains of salicylic acid to the pint. The Magistrate, however, dismissed the summons.

Children's Powders.

At the Southwark Coroner's Court on August 14, at an inquest on the body of a boy named Cowen, two years old, the mother stated that the child had been ailing for a week, and she gave him a cooling-powder which she obtained from Mr. J. T. Jones, cash store chemist, 3 Tower Bridge Road, Southwark, S.E. She told the chemist she wanted "a cooling-powder for a child of two." On the following day the child seemed worse and "kept falling about." She thought it was the powder that had caused the trouble. She eventually called in Dr. Stoker, but the child died the following day. Dr. James Morris Stoker, of 221 New Kent Road, S.E., deposed to making a *post-mortem* examination, as a result of which he gave it as his opinion that death was due to congestion of the brain, which brought on convulsions. He did not know what the cooling-powders were made of, as he had not examined them, but he did not think the brain-congestion could have been caused by the powders. He found only partly digested food in the stomach, and he thought the falling about caused the congestion. The jury returned a verdict in accordance with the medical evidence.

At an inquest on the body of a child named Eaton at Derby the grandmother of the child said the deceased was six months old, and was remarkably fat and healthy. She thought his teeth were troubling him so she gave him a powder, which she obtained from a man named Proctor, a herballist, of Queen Street. Asked why she went to a herballist instead of calling in a doctor, she said she did not think the child's condition was serious. Dr. Parry Jones said the child died from epidemic diarrhoea. It was a well-nourished child, and evidently had been well cared for, but he was of opinion that if it had received proper treatment it would have lived. The Coroner said the grandmother certainly should have called in a doctor instead of going to a quack. Dr. Parry Jones, however, did not think the grandmother was so much to blame as the person who pretended, as it were, to prescribe for the child. The jury returned a verdict in accordance with the medical evidence, and added a rider to the effect that Proctor should have advised the grandmother to have taken the child to a doctor.

Midland Notes.

Mr. W. Rosenhain, inventor of the calorimeter bearing his name, and who until recently has been engaged with Messrs. Chance & Co., of Oldbury, has obtained an appointment at the National Physical Laboratory, Bushey Park.

"Apprentice; suburban pharmacy; high-class trade; outdoors; season-ticket free to smart youth," is the latest ad. in a local paper. The railway fare is a new attraction, but one omission in noted—the wages to be received by the "smart youth."

While Alderman Steward, J.P., pharmaceutical chemist, was adjudicating on a case at Worcester last week, the accused, a young girl of sixteen, pointing to the Magistrate, sang out, "I wouldn't leave my little wooden hut for you," and then collapsed in the dock.

The Greenwich tradesman's notice to burglars that they would receive 800 volts through them if they called after closing-time, recalls the device of a Birmingham chemist who under his shop doormat has an electrical arrangement which sets a bell ringing whenever anyone steps on the mat. One evening, while the principal was away for the night, his wife was alarmed by the bell ringing. The police were called, and, after a careful search, it was found that the house cat had dropped on the mat.

The "Birmingham Daily Mail" has been giving prominence to the report, under the Inebriates Act, of Dr. J. O. Donald on the work of a licensed retreat which he conducts. The drug-cure, it is said, has rendered the hypodermic syringe more generally known, and the drug-cure is more difficult to get rid of than alcoholism. Hyoscine and atropine, he says, are useless: the only alternatives available are cocaine and morphine, the remedies being worse than the disease.

According to the "Mail's" canvass among the chemists of the city, Birmingham is immune from the drug-habit. This immunity is ascribed to the close supervision exercised by chemists in the sale of morphine and cocaine. "There may be smaller dealers who are not so scrupulous," remarked a member of one of the leading firms, "but the

leading chemists of Birmingham are extremely careful in the sale of drugs." Generally it is medical men themselves, or friends of theirs, who use these drugs, but the abuse of either morphine or cocaine is extremely rare locally. An incident is related of the son of a quondam medical man of high standing who used to implore on his knees local chemists to supply him with these drugs, and whose arm was one mass of punctures from the hypodermic needle.

Sheffield Notes.

Replying to a correspondent on August 13, the "Sheffield Telegraph" stated that chloroform was applied as an anaesthetic experimentally by Mr. Jacob Bell in London in February 1847.

At the Police Court on August 11, a labourer named Barnes was sent for trial to the sessions on a charge of throwing a stone through the plate-glass window of a shop of Boots, Ltd., in Attercliffe Road, and doing damage estimated at 7l. 10s.

At the Court House on August 8, a carman, named Bright, was summoned before the Stipendiary for obtaining 3s. by false pretences from his employer, Mr. J. F. Eardley, pharmaceutical chemist and aerated-water manufacturer, Glossop Road. One of the regulations governing the defendant was that he should not be paid for the days on which he did no work. One day he arrived late, dressed in his Sunday clothes and wearing a black tie. He told Mr. Eardley that his mother had died that morning, and that he was arranging for the funeral. He added that he could not afford to lose his wages, so Mr. Eardley out of sympathy paid him his full wages at the end of the week. It transpired that defendant's story was false. The mother, supposed to be dead, was called as a witness, and defendant admitted that he wanted a day off. The Stipendiary said no doubt the day's holiday was obtained by false pretences, but it would be straining matters to say the 3s. was so obtained. Defendant was therefore discharged.

Stealing Lavender.

During the past few weeks there have been many complaints by lavender-growers in the neighbourhood of Mitcham and Carshalton of wholesale thefts from their fields. Mr. James Bashford, an extensive grower in the Carshalton district, has been one of the principal sufferers, and on August 9, as the result of a watch kept by police officers on Bank Holiday, four young fellows were brought before the Croydon County Bench charged with stealing lavender from Mr. Bashford's field at Carshalton on the previous day. Three of the youths were fined 2s. each, 3s. 6d. costs, and 4d., a third of the value of the lavender stolen; while the other was fined 2s. 6d., with 3s. 6d. costs, and the value of the lavender.

Leggett Testimonial Fund.

A fund is being raised to present a testimonial to Mr. W. J. Leggett, of Liverpool, who was until recently Hon. Secretary of the Patent-medicine Vendors' and Drug-stores Association. Mr. Walter Huntrrods, the President of the Association, is issuing the appeal, the circular giving a résumé of Mr. Leggett's services to unqualified druggists. The Treasurer of the fund is Mr. J. M. Davidson, 78 London Road, Liverpool, who will no doubt be pleased to send a circular and subscription-form to inquirers.

Bradford at Liverpool.

A number of members of the Bradford Chemists' Association travelled to Liverpool on August 14, and visited the new laboratory of Messrs. Evans Sons Lescher & Webb, Ltd. The party, consisting of Messrs. Firth, Carson, Marshall, Dutton, F. Metcalfe, J. T. Metcalfe, Holme, Newbould, and Hanson, were conducted over the premises by Mr. Herbert Evans, and all were much impressed with the magnitude and splendid equipment of the works. One feature particularly noticed was a large percolator, capable of treating a ton of podophyllum-root at each operation. Much interest was excited also by a series of stills distilling sandal-wood oil. The party afterwards dined at the Adelphi Hotel, where the Bradford visitors expressed their appreciation of the treatment they had received at the hands of the firm.

Lead in Pills and Ointment.

In the City Coroner's Court on August 15, Mr. F. Danford Thomas, the deputy-coroner, held an inquest on

Elizabeth Ann Frances Marner (30), a porter's wife, who died from lead-poisoning in St. Bartholomew's Hospital. The evidence was to the effect that the deceased woman did not want to have any more children, and it was suspected that she had been taking lead in the form of pills to procure abortion. The woman had consulted Dr. Gade, of Clerkenwell, who deposed that he gave her some quite ordinary medicine. In reply to the Coroner, Dr. Gade said he had heard it was a custom in Clerkenwell for women to take medicine for the purpose of ridding themselves of children. They got such medicine, he thought, at the chemists round about. There are three or four of them, he believed, that sell such stuff in the form of pills. The women take ordinary aloe and rhubarb pills in many cases. Dr. John Priestley, house-physician at St. Bartholomew's Hospital, said deceased died from chronic lead-poisoning. In his opinion she had taken lead to procure abortion as she was three months' pregnant. They had a good number of such cases in the neighbourhood. The women get the poison easily from the chemists. The Coroner: In what form do they take it, in pills? Witness: I believe they do get pills, but if not ointment (*sic!*) The Coroner: But they cannot surely take the ointment. Witness: No; but I believe they roll it up in the form of pills and take it in that way. The Coroner: You have heard that the sale of this is quite prevalent among some chemists in this neighbourhood. Witness: Yes. Eventually the jury returned a verdict that the deceased died from chronic lead-poisoning, but how the poison was obtained, or taken, or administered there was no evidence to show.

Cricket.

Heron C.C. (Hearon, Squire & Francis, Ltd.) v. Barronetta C.C. (Barron, Harveys & Co.).—Played at Southwark Park on August 11, and resulted in a win for Barronetta by six runs. The scores were Barronetta, 39; Heron, 33. Dean took four wickets for thirteen runs.

Sheffield Pharmacy Athletic Club C.C. v. Thursday Albion C.C.—Played on August 9 at Sheffield, and resulted in the defeat of Pharmacy—their third defeat this season. The Albion team piled up a score of 113, as against 54, for which the Pharmacists had been dismissed, this disaster being no doubt accounted for by the absence of three stalwarts of the chemists' team in the persons of Messrs. Twelves, Stather, and Weatherall.

The cricket club connected with the Bedford branch of Boots, Ltd., drove to Cranfield on Bank Holiday and played a local eleven at the annual flower-show sports held in the spacious grounds of Cranfield Court. The play all round was excellent, the surroundings charming, and a delightful day was spent under almost tropical conditions. At the conclusion of the match, which the Boots team won, the teams were photographed, and, the gardens having been inspected and tea disposed of, the party returned to Bedford after a pleasantly strenuous day.

Leicester Pharmacy Athletic Club C.C. v. Leicester St. Mary's C.C.—Played at the Western Park ground on August 2. Losing the toss the Chemists took the field first and did not get rid of their opponents until they had gathered a score of 113. Miles was the most successful bowler, taking four wickets for 24. Marfitt took 3 for 28, Peberdy two for 19, and Forryan one for 7. On taking their turn with the bat the Chemists did poorly, losing eight wickets for 42, of which Miles with some lively hitting made 16. Some careful play by Tomlin (not out 10), however, enabled the game to be saved by time putting an end to the match.

Leicester Pharmacy Athletic Club C.C. v. Leicester St. Stephen's C.C.—Played at the Old County Ground on August 9. St. Stephen's batted first, and only managed to make 56, owing to some excellent bowling by Miles and Forryan, the former taking six wickets for 17, and the latter four for 3, everyone being clean bowled or l.b.w. The Chemists were more successful than their opponents with the bat, the match being really won with only two wickets down; the innings, however, was finished, with only ten men batting, with a total of 140, towards which Miles contributed 32, Peberdy (not out) 25, Chawner 25, and Marfitt 14.

Irish News.

The Belfast Institute.

It is expected that the Chemistry Department of the new Municipal Technical Institute in Belfast will be opened on September 10.

The Thomas Acheson Estate.

In regard to the estate of the late Thomas Acheson, chemist, 20 Stamer Street, Dublin, notice has been given that any person entitled to share as next-of-kin of deceased must communicate with Messrs. Scallion & Co., solicitors, 25 Suffolk Street, Dublin, before January 1, after which a distribution of the estate will be made. The estate is now in the Chancery Division of the High Court of Justice in Ireland (Master of the Rolls).

Longford Union Analyst.

At the last meeting of the Longford Guardians, the Clerk said that Mr. Thorpe, analyst, had reported favourably on the samples of drugs which had been forwarded to him for analysis. The Chairman: What was the upshot of the case the time he refused to test some samples? The Clerk: They were samples of water, and Mr. Thorpe refused to test them; he said they were not included in his contract. The Chairman: We should take steps to have his appointment set aside. He has 2s. 6d. per sample for every one he tests. The Board directed the Clerk to forward two samples of water for analysis to Mr. Thorpe, and if he refuses to do the work his contract is to be cancelled.

Storing Motor-spirit.

At the last meeting of the Ballybay Town Commissioners a letter was read from the Chief Secretary's Office, Dublin Castle, with reference to a merchant in the town of Ballybay who kept motor-spirit and carbureine for sale without a licence. The letter stated that motor-spirit is undoubtedly petroleum within the meaning of the Petroleum Acts, 1871 and 1879, and as such may not be kept for sale without a licence. The Town Commissioners ought to appoint an officer who would be furnished with a proper apparatus for testing liquids which he conceived might come within the provisions of the Acts. The letter added that the keeping of petroleum with gunpowder or other explosives is both illegal and extremely dangerous, and has in the past been a source of several very serious accidents.

A Serum-syringe.

To the last meeting of the Cashel Guardians the L.G.B. wrote *re* surgical appliances, declining to allow recoupment for needles for a serum-syringe, the price being excessive.—The Clerk said that the needles were not on the L.G.B. list. The contractors charged 3s. 4d., and the L.G.B. would only allow 1s. He said this might be a caution to the L.G.B. not to make the Guardians deal with English firms.—The Guardians directed the Clerk to state that it was an English firm who made the overcharge. If the L.G.B. had provided for needles in their list, there would be no overcharge. The Guardians and Clerk could not be supposed to be experts. The Clerk was also directed to apply to Messrs. Sumner & Co., Liverpool, for a refund.

Scotch News.

Assault.

At Aberdeen Police Court on August 11, a labourer named Graham was fined 20s., with the alternative of ten days' imprisonment, for having assaulted Mr. Robert Robertson, chemist and druggist, and having created a breach of the peace in a shop in Castle Street, Aberdeen.

Personal.

A Dundee correspondent directs our attention to the fact that the Secretary of University College, Dundee, is now Mr. W. Arnot Watterston, and that the Secretary of the Dundee Technical Institute is Dr. J. S. Lumsden.

The "Scottish Law Courts Record" intimates that claims against the estate of the late Mr. Frederick King, chemist, 142 Marchmont Road, Edinburgh, or his firm of William King & Son, chemists, there, should be lodged with Messrs. J. & J. Galletly, S.S.C., 9 St. Colme Street, Edinburgh, forthwith.

French News.

(From the "C. & D." Paris Correspondent.)

A HOSPITAL PHARMACIST'S RECORD.—M. Guinochet, General Secretary of the Confraternal Association of Internes in Pharmacy, has compiled an "Annuaire" giving a list of hospital *internes* since 1851, chronologically arranged, with addresses, titles, and professions.

THE PARIS SOCIETY OF PHARMACY has established two new annual prizes. One of these is founded by Madame Pierre Vigier, in recollection of her late husband, so long a zealous and useful member of the Society, and is worth 20*l.* per annum. The second, of the same value, but biennial, utilises a legacy left to the Society by M. Leroy.

MEASURING X-RAYS.—Dr. Gariel, at the last meeting of the Academy of Medicine, described the "chromoradiometer" of Dr. Bordier, assistant professor at the Lyons Faculty of Medicine. This instrument, which is intended to measure the therapeutic energy of *x*-rays, is based on the change in colour of barium platinocyanide under the action of the rays, the change being more evident in proportion to their force.

LADY PHARMACISTS IN DISPENSARIES are too common to attract much attention nowadays, and Mme. Chaboseau (*née* Napias) is chiefly noticeable as being the niece of the ex-Director of the Assistance Publique (Poor-law Administration). She has long controlled the distribution of medicaments at the free dispensary of the rue Jenner, the largest and most typical of these establishments which now exist in most poor quarters of Paris.

PHOTOGRAPHS OF SCIENTIFIC AND HISTORICAL PARIS.—The Paris Municipal Council have just announced that their annual competition for 1907 will be photos of the Jardin des Plantes, the Luxembourg and Avenue de l'Observatoire, and houses outside Paris (Seine Department) over 100 years old. The historical buildings of the Jardin des Plantes (the residences of Cuvier, Buffon, etc.), and the fact that the Paris Superior School of Pharmacy is situated in the Avenue de l'Observatoire, will make this a particularly interesting competition. The public exhibitions of competing photographs will be held from May 15 to June 15, 1907.

COMPARATIVE RISKS OF PHARMACEUTICAL EMPLOYMENTS.—The extension of the French Employers' Liability Act to shopmen, warehousemen, and employés generally being now an accomplished fact, it may be interesting to note that the General Association of French Pharmacists took time by the forelock in organising an insurance to cover employers' risks in this line. The rates were 10*f.* per annum for an apprentice, 12.50*f.* for a laboratory assistant (15*f.* if he delivered by hand-truck and 22.50*f.* if a cyclist messenger), and 6*f.* for a lady cashier. These rates were framed to induce pharmacists to join in the movement before the Act was passed.

"GÉRANCE," or the management of a pharmacy by a person who is not the actual proprietor, is forbidden by Article 11 of the Law of Germinal, and though this clause may occasionally be ignored, in practice, those who infringe the statute do so at their own risk. M. Carré, pharmacist, of Sainghin-en-Weppes (Nord), left his assistant (*élève*) to manage his pharmacy. He did not fulfil these duties to the pharmacist's satisfaction, and the latter entered a claim for damages. The assistant, M. Rivelais, counterclaimed for salary. But the Lille Tribunal dismissed both actions, pointing out that the law could not be invoked to enforce the results of an illicit action or agreement.

THE VEXATIONS OF FORTUNE.—One of the Paris newspapers announces that M. Pougnat, the chemist who, as recently mentioned in the *C. & D.*, has won a French Press Lottery prize of 20,000*l.*, is in a state of considerable disappointment. He reached Paris a few days ago for the purpose of claiming the money, but found that opposition to the payment has been lodged. As, however, the ground on which it is made is merely that he is a Mauritian, which is apparently not sufficient cause of disability, the matter should be arranged without great difficulty. But if litigation ensues, the case may drag on with the slowness of a suit in Chancery. It appears, however, that M. Pougnat is disposed to take the matter philosophically, for the motto he adopts is "A chemist I have been, and a chemist I will remain."

South African News.

(From our own Correspondents.)

Note.—"The Chemist and Druggist" is regularly supplied by order to all the members of all the Pharmaceutical Societies in British South Africa, viz.:

South African Pharmaceutical Association.
Pharmaceutical Society of Cape Colony.
Natal Pharmaceutical Society.
Transvaal Pharmaceutical Society.
Rhodesia Pharmaceutical Society.
Northern District Chemists' Association.
Pharmaceutical Society of Orange River Colony.

Cape Colony.

RE-SHIPPED.—Rather than pay the exorbitant duty of 20s. per lb. weight on pills and tablets, some South African firms have re-shipped consignments back to the manufacturers.

VISITING ENGLAND.—Mr. C. E. Gardner, of Messrs. C. E. Gardner & Co., Ltd., Port Elizabeth, returned to the Old Country by the R.M.S. *Kenilworth Castle*, which arrived at Southampton last week.

NEW BLOOD.—Licences have been issued by the Cape Colonial Secretary, upon the recommendation of the Colonial Pharmacy Board, authorising Mr. Joseph Bertram Silvester, chemist and druggist, Great Britain, 1904 (formerly of Knutsford), and Mr. William Gillies White, chemist and druggist, Great Britain, 1901 (late of Chirnside, N.B.), to practise in Cape Colony in the capacity of chemists and druggists.

POSTAL MATTERS.—The South African postal authorities purpose making some arrangements at an early date whereby oversea firms wishing to send catalogues to South Africa can pay the duty. At present the duty can be paid in a lump sum if the firm is represented out there and certain formalities are complied with. Why not issue through the Agents-General in London, suggests our Cape correspondent, stamps for the purpose of paying the duty? This seems to be the most feasible idea of settling the vexed question, if South Africa really must tax British catalogues. The Cape Postmaster-General is no respecter of persons. Official papers from Departments of the U.S. Government to a Cape Government Department are being taxed. The *C. & D.* does not, of course, have to pay. The Cape trader has no great objection to catalogues being surcharged, as he can refuse acceptance, but the much-taxed, long-suffering South African knight of the pestle would rebel if his trade paper were only to be had after paying a fine in the shape of duty.

Orange River Colony.

BUSINESS CHANGE.—Messrs. C. E. Gardner & Co., Ltd., manufacturing chemists, Port Elizabeth, East London, etc., have established a wholesale branch at Bloemfontein, from which they will conduct the bulk of their Orange River Colony trade.

Southern Rhodesia.

CASTOR AND GROUND-NUT OILS.—Samples of castor oil and ground-nut oil from Southern Rhodesia have been forwarded to the Imperial Institute by the British South Africa Co., with a request for a report on their composition and commercial value. The sample of castor oil consisted of nearly colourless, very viscous, slightly turbid oil, and the chemical examination showed: Sp. gr. at 15.5° C., 0.959; acid-value (mgms. KOH per gram of oil), 1.2; acid-value (calculated as oleic acid), 0.6 per cent.; saponification-value (mgms. KOH per gram of oil), 179.6; iodine-value (iodine absorbed by 100 parts of oil), 87. One part of the castor oil was found to dissolve in 5 parts of 90-per-cent. alcohol, forming a clear solution. These results indicate that the product is of good quality although in its present state its value is diminished on account of its turbid condition. After filtration, when the oil would be clear and bright, commercial experts place the value at about 26*l.* per ton. The sample of ground-nut oil proved to be of good quality, and was valued at about 40*l.* per ton.

Transvaal.

BUSINESS CHANGE.—Messrs. Richards, White & Co., Ltd., have recently closed their Krugersdorp branch.

CHANGED COLONIES.—Mr. W. B. Rawlinson has disposed of his business at Marshall Street, Jeppetown, Johannesburg, and has left the Transvaal with the intention of settling down in the Cape Colony. Mr. Rawlinson has consequently resigned his seat on the committee of the Transvaal Pharmaceutical Society, which he has held for the last four years. He has been a hard worker and very popular, and the members of the committee, as a mark of their high appreciation of his valuable services, presented him with a set of nine books—latest editions of volumes usually found of use to pharmacists.

TOOTH-EXTRACTION.—At Johannesburg on July 21, a chemist named Roberts and a man named Friedman, of Fox and Bezuidenhout Streets, Johannesburg, were each fined 5*l.* for practising as dentists without the requisite licence required by law. Roberts gave evidence on his own behalf to the effect that he was a certified chemist. A man had come to him and wanted a tooth drawn, as he was suffering considerably. Roberts extracted the tooth but did not charge for the extraction. Friedman said that Roberts was his partner. The decision in this case has caused considerable perturbation among chemists, who in some districts of the Colony have been extracting for fifteen years. The Pharmaceutical Society are to have legal advice on the point.

TRANSVAAL PHARMACY BOARD.

The monthly meeting of the Board was held on July 20, at Johannesburg, under the Presidency of Mr. R. Butters, there being also present Dr. van Niekerk, Messrs. J. R. Jones, B. Owen Jones, W. T. Skinn, and the Secretary.

It was reported that, on the representations of a committee consisting of representatives of the Pharmacy Board, the Medical Council, and the Transvaal Chamber of Mines, a new Ordinance had been introduced into the Legislative Council to take the place of the Opium-importation Ordinance of 1905. This latter Ordinance had for its main object the total prohibition of opium-smoking among the mine coolies, but, so far from this object having been attained, the restrictions placed on the sale of opium had merely had the effect of deviating the sale of the drug into illicit channels, and, as a result, large quantities were being smuggled into the Colony. Moreover, the 1905 Ordinance had made no provision for the large Asiatic population in the Transvaal prior to the introduction of the Chinese coolies. Under the new Ordinance it is now proposed to permit the sale of opium under certain conditions to those persons who have already contracted the opium-habit, while the importation and sale of opium will be still more strictly controlled. The chief points of the proposed new Ordinance are as follows :

1. Every person lawfully entitled to sell opium shall be required to declare, on a date to be specified, the entire stocks of opium and extract of opium held, for which a permit to possess will be given by the Colonial Secretary.

2. Subsequently no person will be allowed to import opium except a chemist and druggist, who must for this purpose receive a permit from the Colonial Secretary.

3. Every person lawfully entitled to sell opium shall keep a book for the purpose of recording all purchases and sales, which book shall be open to inspection when demanded.

4. No such person shall sell opium except upon production of a permit signed by an officer appointed to issue such permits, who will only grant a permit on production of a prescription signed by a registered medical practitioner.

The Board, having exhaustively discussed the draft Ordinance, approved of its provisions and confirmed the action taken by the Board's representatives.

Letters were read from certain incorporated companies trading as chemists and druggists in reply to the representations of the Board as to the exhibiting of the names of the managers of each shop.

Applications from the following for registration to practise as chemists and druggists in the Transvaal were approved : C. S. Rau, J. Gellately, and S. Meyerson (all with the Transvaal Board's qualification); A. Purnell, E. J. Tyrrell, W. F. Milne, and J. G. Sutherland (all with British qualifications).

NATAL PHARMACEUTICAL SOCIETY.

The regular monthly meeting of the Society was held at Reed & Champion's rooms, Durban, on July 19. There

were present : Messrs. Champion, Brown, Forth, Edwards, Holden, Hamlin, Firth, Irving, Inman, Millar (President), Read, Rees, Roadknight, Watts, and Anderson (Hon. Secretary).

Mr. Ryan sent in his resignation from the Society, which was accepted with regret.—Mr. C. E. Forth was elected a member of the committee in place of Mr. Ryan.

UNIFORM PRICES.—The new price-list was brought forward for approval. The Secretary stated that he had a document which was signed by every chemist in Durban, agreeing to abide loyally by a "price-list" to be drawn up by a representative committee of chemists, and approved of by the Natal Pharmaceutical Society. The Secretary said that there was great reason for satisfaction at the unanimity which was apparent at the production of the list, and as the list was now in active operation, it was purely a formal matter to give the approval of the Society. Mr. J. H. Read seconded the approval, which was carried unanimously. The list is now in use in Durban, Verulam, Port Shepstone, Richmond, Utrecht, Bethlehem, Wakkerstroom, etc. The following scale of prices for dispensing was also laid before the meeting, and after a few minor alterations was approved of :

—		5j.	5ij.	5ss.	5j.	5iss.	5ij.	5iij.	5iv.	5vj.	5vij.	5x.	5xij.	5xvj.	5xx.
—		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Mixtures, 5j. dose	—	—	1 0	1 6	2 0	2 6	3 0	3 6	4 0	—	—
" 5ij. "	—	—	1 0	1 3	1 6	1 9	2 0	2 6	3 0	3 6	4 0
" 5ss. "	—	—	1 0	0 1	1 3	1 6	1 9	2 0	2 6	3 0	3 6
" 5j. "	—	—	0 9	1 0	0 1	1 6	1 6	1 9	2 0	2 6	3 0
Drops	1 0	1 0	1 0	1 6	2 0	2 6	3 0	3 6	4 6	5 6	—
Liniments	—	—	1 0	1 3	1 6	1 6	2 0	2 6	3 0	4 0	4 6
Paint	—	—	1 6	1 9	2 0	2 6	3 0	—	—	—	—
Ointment	1 0	1 0	1 0	1 6	2 0	2 0	3 0	3 6	—	—	—
Dusting-powder	—	—	1 0	1 3	1 6	2 0	—	—	—	—	—
Lotion, wash or gargle	—	—	1 0	1 0	1 0	1 3	1 6	2 0	2 6	3 0	4 0

—		One	Two	Three	½ Doz.	1 Doz.	1½ Doz.	2 Doz.	3 Doz.	4 Doz.	6 Doz.	100	12 Dec.
—		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Pills	...	0 6	0 6	0 6	0 9	1 0	1 6	2 0	2 6	3 0	5 0	6 0	9 0
Powders	...	0 6	0 9	1 0	1 6	2 6	3 6	4 6	5 6	6 6	—	—	—
Cachets	...	0 6	0 9	1 0	1 6	2 6	3 9	5 0	—	—	—	—	—
Suppositories	...	1 0	1 6	1 6	2 6	5 0	7 6	9 0	—	—	—	—	—

These tables are merely issued for the guidance of chemists as a minimum.

NEW MEMBERS.—The following gentlemen were elected members of the Society : Messrs. Harold Beaumont Legg, Alfred Pearson Brown, Ernest Tyson, and Robt. Raw.

A LONG DISCUSSION took place regarding some correspondence which had appeared in the local Press between Mr. Millar and Mr. Champion. In one of his letters Mr. Millar had written as the President of the Society. He now withdrew his remarks as President, but still held to his private opinion. The hope was expressed that the matter would end there.

India and the East.

(From "C. & D." Correspondents.)

A CONVICTION QUASHED.—The Chief Justice of Madras last month quashed the conviction and ordered the re-trial of Manavalan Chetty for selling spurious soaps in boxes bearing the name of A. & F. Pears, Ltd., London (see *C. & D.*, April 21, p. 591). His Lordship held that the Magistrate had convicted on an irregularity.

TWO ALTERED ORDINANCES.—The Straits Government are now engaged in passing a "Liquors Ordinance" and an "Opium Ordinance." On account of large expenditure for public works, etc., the duties under the Liquor Ordinance are to be raised as from January 1, 1907. A clause has also been inserted so that in future all medicated wines which

have not previously paid duty shall become dutiable. The duty on spirituous liquors containing 20 per cent. (by weight) or more of pure alcohol will be raised from \$1.50 to \$2.40. By an arrangement with the spirit-farmer chemists import rectified spirit at one-third duty rates, under guarantee that the spirit is to be used for medicinal preparations. Sparkling wines and still wines will be raised 50c. a gallon from \$1 and 50c. respectively, and all other intoxicating liquors, fit or intended for use as a beverage, containing more than 2 per cent. of pure alcohol by weight will be subject to a duty of 24c. per gal. What is not quite clear at present is whether the Government will consider medicated wine as a still wine or an intoxicating liquor. The alterations in the Opium Ordinance do not affect chemists.

THE SALE OF COCAINE.—A Reuter's telegram from Simla, dated August 10, states that Mr. E. N. Baker has introduced a Bill in the Council proposing the curtailment of the sale of cocaine in India, on the ground that at present the cocaine-habit constitutes a serious danger to the country. —A medical man, writing to the "Madras Mail," points out that the regulations framed under the Cocaine Law prohibit the sale by any chemist in Madras of a solution of cocaine of

a higher strength than 5 grains to the ounce even with a duly qualified doctor's prescription. Every medical man knows that in the majority of cases a 1-per-cent. solution is useless for obtaining local anaesthesia. The medical man must not keep a supply of cocaine and sell it to his patient because he is not a licensed chemist, and the chemist is not allowed to sell a 5 or a 10 per cent. solution even if he has a prescription for it. The only alternative is that the medical man should buy cocaine at his own expense and use it on his patients without charge—a practice which, not being a philanthropist, he is somewhat loth to begin. The point is worthy of the attention of the Government.

ST. JOHN'S WORT.—A romance of botany comes from the Colony of Victoria, where a lady a few years since introduced for the first time into Australia a species of St. John's wort. She sowed a few seeds in her modest garden in the town of Bright, in the hope that this peculiarly European plant would take to its new soil and provide her with a little of the herb for medicinal purposes. Her experiment was eminently successful. Particulars of it are given in the last issue of the Victorian "Year-book of Agriculture," from which we learn that the *Hypericum perforatum* has by now taken possession of nearly a whole county, and occupies over 10,000 acres of good land. It has even got across the main watershed of Victoria and taken root in Gippsland. The efforts of the Agricultural Department are now being directed to eradicating from the soil what is threatening to become as gigantic a pest as the Australian rabbit. It cost the lady of Bright a mere trifle to introduce it, but various remedies to get rid of it, at a cost ranging from 5/- to 50/- an acre, have not yet accomplished much.—*Daily News*.

Australasian News.

The fullest information regarding the Australasian drug-trade and pharmacy is given in "The Chemist and Druggist of Australasia," copies of which can be obtained at 6d. each, post free, from the office of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

Note.—"The Chemist and Druggist" is regularly supplied by order to all the members of the following, among other societies:

Central Pharmaceutical Association, N.Z.
Canterbury (N.Z.) Pharmaceutical Association.
Otago Pharmaceutical Association, N.Z.
Pharmaceutical Society of New South Wales.
Pharmaceutical Society of Queensland.
Pharmaceutical Society of South Australia.
Pharmaceutical Society of Tasmania.
Pharmaceutical Society of Western Australia.

Commonwealth.

SPRIT-DUTY IN AUSTRALIA.—A Reuter's telegram from Melbourne, dated August 15, states that the House of Representatives has passed a resolution by thirty-four votes to eighteen in favour of reducing the Customs-duty on spirits to 14s.

MR. BEALE'S REPORT.—On July 5 the Prime Minister of the Commonwealth received from Mr. O. C. Beale a copy of his report to the British Secretary of State for the Home Department, Mr. Herbert Gladstone. Mr. Beale is a manufacturer of sewing-machines and pianos in Sydney (New South Wales), and is one of the most prominent Protectionists in Australia. His factories are exceedingly busy, so that it is hardly possible for him to overtake his orders. Meanwhile, agitation is going on for increased duties. He served as a member of the Royal Commission to inquire into the alleged decrease in the birth-rate in New South Wales, and in the course of that investigation became familiar with many aspects of the trade in drugs. On his visit to England he was commissioned by the Commonwealth Government to inquire in England and on the Continent into the destruction of human life by drugs prepared and sold under secret formulae.

PURE FOOD ACT REGULATIONS.—At a meeting on July 6, the Board of Public Health, on the recommendation of the Foods Standards Committee, under the Pure Food Act, adopted the two following regulations :

No compounded drug of which the average dose is more than one teaspoonful (60 minims) for adults, or is more than one-half of one teaspoonful for children under five years of age, unless such compounded drug is a preparation set out in the British Pharmacopœia, or is sold specifically as an alcoholic compound, shall contain more than 10 per centum by volume of ethyl alcohol.

No drug or compounded drug other than any sold specifically as one of, or as containing one or more of the substances set out herein, or any of their derivatives, "shall contain opium or belladonna, or stramonium, or nux vomica, or cannabis indica, or cocaine, or heroin, or any derivative of any of these drugs, or chloral hydrate, or bromides, or sulphonal, or trional, or veronal, or paraldehyde, or any other synthetic hypnotic substance, or phenazonium, or phenacetinum, or acetanilidum, or any other allied synthetic substance."

The regulations are to come into operation on October 1, and the effect will be that a preparation containing ethyl alcohol in any proportion above 10 per cent. by volume, or any one of the drugs enumerated, must show clearly on the label that it does contain these things, or it cannot be sold. The work of administering the Poisons Act will be facilitated, for one of the great demands of the storekeepers, as well as of the pharmacists, has been for a list of such medicines containing scheduled poisons as can only be sold by registered pharmacists or licensed dealers.

Queensland.

ALCOHOLIC PERUNA.—At Brisbane on June 25, Robert Conachie, manager of Messrs. Foy & Gibson, Wickham Street, Valley, was fined 10/- for selling "Peruna" containing 42 per cent. of proof spirit. Inspector McKenzie, who prosecuted, explained that the action was taken to prevent alcoholic patent medicines being sold by drapers, grocers, etc. He also pointed out to the Bench that on the

label "Peruna" is recommended to be given to children at the rate of a teaspoonful before each meal.

Victoria.

FRIENDLY SOCIETIES AS CHEMISTS.—An important case was decided by the High Court of Australia in Melbourne on June 25. Certain friendly societies, in addition to establishing a dispensary to dispense medicines and sell proprietary articles and sundries to their own members, have created a class of members called purchasing members. Sixpence per annum has to be paid for membership, and the purchasing member is then allowed to buy anything at the reduced prices from the United Friendly Societies' Dispensary. An action was brought by the Pharmacy Board of Victoria to determine whether this was within the law, and after much litigation the matter has been taken to the highest Court in the Commonwealth. The charge brought against the U.F.S. Dispensary was that the members of the general committee, not being pharmaceutical chemists and druggists, did carry on business as chemists and druggists. The Magistrates dismissed the information, an order to review was made absolute, and the defendants appealed. The judgment of the Chief Justice was that the institute was going beyond the mere dealing with its members, and was really selling medicines to any of the public who chose to come and pay the necessary sixpence. What would, he asked, be said of a body of, say, ten persons or more who associated themselves together and called themselves a friendly society with the object of carrying on business as chemists and druggists to supply persons who paid sixpence per year? He was quite clear that such a society would not be a society for dispensing medicines within the meaning of the Act. It must therefore be regarded as composed of persons carrying on business without any legal authority. He doubted very much whether the appellants could properly be said to be carrying on the business of chemists and druggists. The offence they were guilty of was procuring or being accessories to the carrying-on of an unlawful business by the Society. The other two Judges concurred. The appeal was therefore dismissed, with costs, so the position is that the case goes back to the Magistrates for review.

RETAIL PRICE-LIST.—The South Suburban Chemists' Association, Melbourne, has issued a price-list intended to indicate to its members the minimum prices at which drugs should be sold. For dispensing-charges the first dispenser of a prescription is asked to mark invariably the price charged with the private mark "Antimsulph," and subsequent dispensers are enjoined strictly to follow the price indicated, and, above all, never to make any allusion before customers to the private mark or the existence of a general price-list. The following note as to cheap dispensing is interesting :

The public should be given to understand, when necessary, that dispensing being skilled labour of a high class, and involving the gravest responsibility, the mere retail price of ingredients in a prescription would be a very inadequate remuneration for a competent pharmacist. Every man is worthy of his hire, and if you are so cheap as to be willing to work for nothing, that is your worth. In any business or profession there is none so utterly despised by his brethren, and so little appreciated by the public, as a cheap man.

BETWEEN TWO STOOLS.—A chemist recently received a request for "one tabloid of Wright's coal-tar soap." He asks how he stands legally, and whether the cry of "substitution" could justifiably be raised by either of the two firms concerned.

ANOTHER RAT-PARASITE.—Particulars of a new and pestilential fly, discovered in German East Africa by Dr. Robert Koch, have been given in the German newspapers. The investigations were due to the reported infection of rats with plague in the Rubeno Mountains, eight days' march from Mrogoro, but the result showed that the mortality among the rats was caused not by the plague bacillus but by the larvae of a fly which had effected lodgment in the skins of the animals. The boils caused by these parasites appeared only on those parts which came in contact with the ground, from which it appeared that the fly laid its eggs not upon the rats directly, but upon the ground, possibly in the rat-holes, whence the rats, when crawling in and out, were readily infected. The name of *Cordylobia murium* has been given to these larvae, and under the name of *Cordylobia anthropophaga* earlier observers have described analogous pests found in boils on the skin of men and various mammals.

Colonial and Foreign News.

A BIG FIRE.—On August 14 a great fire broke out on the premises of the firm of Paganini Villani, of Milan, the largest dealers in drugs, spices, and medicines in Italy. The building stood in the centre of the town, and was filled with inflammable materials, such as oil, benzine, and petroleum. Owing to the character of the fire the inhabitants of the adjoining houses were obliged to fly for safety, leaving all their belongings behind them. Troops were called out to keep the huge crowds outside the danger area. Several firemen were badly injured in fighting the conflagration, and the damage is estimated at two million francs.

A "SERIES MEDICAMINUM" has now been published in connection with the new Belgian Pharmacopœia, which comes into force on November 1. The "Series" includes all the medicaments contained in the new Pharmacopœia which pharmacists and all those qualified to sell medicaments must keep in stock in the prescribed quantities at all times. A second ministerial order directs the attention of medical men to the alterations in the new Pharmacopœia. Medical men may in no case prescribe in their new form those active remedies in which the strength has been considerably altered until the new Pharmacopœia comes into force. With reference to aconitine and digitaline, which are not included in the new book, it is stated that medical men in future prescribe or sell these dangerous remedies do so on their own responsibility and without legal protection.

ITALIAN CHEMICAL INDUSTRY.—Writing in regard to the production of chemicals in Lombardy, the British Consul points out that the yearly output of the Italian works is considerably over a hundred million lire. A revival in trade is also noticeable, but it is thought that a more general and extended use of water-power, coupled with the progress that electro-chemistry is making, would render it possible for many industries to be started in Italy which have hitherto only existed in coal-producing countries. With the object of protecting and fostering the chemical industry, an association under the style of "Associazione per l' incremento e per la tutela dell' Industria Chimica Italiana" was formed in Italy some months ago, with headquarters at Milan, by an influential body of commercial chemists and supported since by others. Among the principal chemicals produced in Italy last year were 2,778,440 quintals of sulphuric acid, 273,149 q. carbide of calcium, 4,590,190 q. super-phosphates, 4,988 q. carbonate of lead, 25,230 q. carbon bisulphide, 250,000 q. sodium sulphate, 51,540 q. Epsom salts, and 5,805 q. sugar of milk (1 quintal = about 2 cwt.). In Lombardy there are fourteen factories for making medicinal products, employing 924 hands, and 236 factories for making chemical products, giving employment to 3,085 hands.

IN SWITZERLAND.—A pharmaceutical association has been formed in St. Gall, in order that the local pharmacists may be more closely united and their interests better represented. The first step taken by the new Association was to draw up regulations in agreement with the medical men of the town regarding night-duty. The pharmacies have agreed to take turns in being open for night-calls and Sunday duty. Cards, giving the dates on which the different pharmacies will be available for night service, are to be circulated among medical men, midwives, the police, and, so far as is possible, the public. A charge of 1f. will be made for every call between 10 P.M. and 6 A.M. For dispensing prescriptions for the poor, half that sum will be charged. In times of epidemics or of an unusual amount of sickness, night-duty may be extended to meet exceptional requirements.—The numerous proposals put forward for suppressing the speciality evil have led to the preparation by pharmacists themselves of various marketable specialities. It is proposed that a permanent committee of the Swiss Pharmaceutical Society be appointed to deal with all questions and proposals relating to specialities, and that this committee should be formed of as many pharmacists as possible from various parts of the country, or, better still, of delegates of the cantonal and local pharmaceutical societies. The committee would investigate and report, and see to the printing of suitable formulæ, circulars, etc., on the lines recently adopted by the German Pharmaceutical Society.

RUSSIAN NOTES.—The "Pharmatz. Journal" publishes two circulars which, without any appearance of dread of the law, invite clients to buy saccharin, along with which the respective sellers offer to supply free of charge a recipe for preserving beverages in good condition, clear and free of sediment, for six months, having no effect on the taste or colour and absolutely innocuous.—Both the "Russke Slovo" and the "Russky Goloss" state that 114 pharmacists, members of the Russian Pharmacists' Mutual Pension Fund, have petitioned the Governor of Moscow to exercise his prerogative, close the fund, and liquidate. It will be remembered that the subscriptions in hand are very large, and the arrears are likewise large; but that, through mismanagement or neglect—fraud is not alleged—the fund is not put to any use.—The "Novoe Vremya" reports that on August 11 two unknown men made a raid on the Maler Pharmacy in Sebastopol, and took the attendant assistant by the throat. The assistant managed to call for help, however, whereupon the two assailants decamped. It is thought they wanted to steal materials for making explosive machines.—It is stated in the "Pharmatz. Journal" that all the pharmacies in Syssran were destroyed in the conflagration which burned nearly the whole town a few weeks ago.—The "Odessa Listok" describes the sale of army medicines, etc., that remained in Odessa though intended for the Far East. The balance of stock was valued at 600/, and it was sold at a discount of 25 per cent.

GERMAN PHARMACEUTICAL SOCIETY.—The annual Conference of the Deutscher Apotheker-Verein was held at Dortmund on August 7 and 8, under the chairmanship of Dr. Salzmann, of Berlin. There were 103 delegates present from various districts, besides visitors from Holland, America, and other countries. After an interchange of friendly greetings, the annual report (*C. & D.*, August 11, p. 242) was discussed. The question of pharmaceutical education was raised by Dr. Foreke, and, after a long discussion, a resolution was passed that in the opinion of the Association the certificate of a high "nine-class" school (classical school, modern school, or higher modern school) is necessary as a preliminary condition for admission to pharmacy. In the higher modern schools candidates should be required to show proficiency in Latin. With regard to the sick insurance of assistants and apprentices, a resolution was adopted to the effect that it was inadvisable to establish a special sick fund for pharmacy, but authorising the Council to make arrangements with some large existing sick fund. The Conference further agreed that owners of pharmacies were under a moral obligation to pay one-third of the amount of the contribution of their employés. The Conference condemned the competition of druggists in the sale of medicines, and then proceeded to discuss early closing. A resolution expressing the necessity for Sunday rest for pharmacists was adopted. It was suggested that where there were several pharmacies in a district, arrangements should be made for alternate closing at about 3 P.M. on Sundays and on holidays. Furthermore, it was resolved that businesses ought to be closed by 9 P.M. at latest, and that members pledge themselves to endeavour to make that universal. Extra charges for night work to sick funds should likewise be insisted upon.—The members had a number of excursions to places of interest in the district before they dispersed. The next year's Conference is to be held at Eisenach.—A feature of the meeting was the exhibition of specialities prepared from formulæ of the German Pharmaceutical Society and of the Hessian Pharmaceutical Society (see *C. & D.*, July 28, p. 156). All those exhibited were prepared in a German pharmacy by Herr Julius Scriba, pharmacist, of Reinheim, who is the leading spirit in the scheme; but the idea of the scheme is that pharmacists should prepare the specialities from these formulæ in their own pharmacies, and thus lessen the sale of manufactured specialities, and "protect the German pharmacy from the fate of pharmacies in England and America, which have sunk more and more into mere speciality-stores." The Melsbachian labels and cartons were exhibited, and it is hoped that in a few years they will bear the guarantee mark of the German Pharmaceutical Society. It is said that 1,200 German pharmacists have now adopted these formulæ, and it is expected that their number will be considerably increased by the exhibition.

Demerara Doings.

(By the "C. & D." Correspondent.)

THOSE whose acquaintance with tamarinds does not extend beyond the pulpy astringent mass commonly forming an ingredient in proprietary cough-mixtures, may be interested to learn that a man was recently sentenced by a Georgetown magistrate to receive "eight stripes with tamarind-rods."

MESSRS. BRODIE & RAINER have selected from their large staff of assistants Mr. F. I. Larrony to manage the new business which they are about to open at New Amsterdam, in the county of Berbice. Mr. Larrony is a registered druggist of British Guiana, and has been with Messrs. Brodie & Rainer since they commenced business at Georgetown about nine years ago, having for some time past had charge of their wholesale department.

A SMALL PARCEL of locally grown nutmegs and mace (*Myristica fragrans*), said to be the first crop ever produced in the Colony, recently changed hands. The nutmegs and the mace were both of inferior size, but the latter was of good aroma. The method commonly adopted by growers elsewhere, of grafting a branch of a female tree upon a male one—thus transforming a dioecious into a monococious tree—does not appear to be practised here.

A BILL called "An Ordinance to Amend the Indictable Offences Ordinance, 1893, with regard to Fraudulent Acts of Debtors" has just been introduced, and is of interest to all business people in the Colony. It enacts that if a bankrupt's books have not been kept in an intelligible manner for three years immediately preceding his insolvency, he shall be liable to imprisonment for two years. It is thought that this Bill is the outcome of the recent behaviour of a bankrupt, who failed to account satisfactorily for some thousands of dollars. Among his creditors was a local firm of druggists.

AN AMERICAN QUACK was to be seen, just before the mail left, sitting on a stool at the door of a Water Street drug-store, requesting passers-by to purchase his medicines. This was not his first visit to the Colony: on one journey he was selling "electric" belts, and on another cheap jewellery. Square-jawed, clean-shaven, with a slouch hat and a well-chewed cigar-stump stuck in the corner of his mouth, he looked nothing like a "medicine-man." As if in order to remove any doubt as to his identity, a large full-length portrait of the quack was suspended above his head. The firm whose shop-door afforded him such a coign of vantage is to be his local agent after he has left for pastures new. Is not this a trifle *infra dig.* on the firm's part? Every night during the quack's stay a free concert was held in the open air, at which real darkies performed, medicines being offered for sale during the *entr'actes*.

POISON MYSTERY.—The Colony has been deeply stirred by a dastardly attempt to poison Professor J. B. Harrison, Director of Science and Agriculture and Government Analyst, Georgetown, and with him the whole of the laboratory staff. In June the professor was incapacitated by a mysterious illness, which recurred in spite of skilled treatment. About the same time the laboratory was more than once entered by some unknown person at night. Some samples were stolen and others tampered with. The burglars were apparently possessed of duplicate keys. The crisis came on Thursday, July 5, when Professor Harrison, after drinking several glasses of ice-water from the can in his private office, was seized with headache, giddiness, and nausea. He was compelled to leave work and go home, where he was confined to bed. Meanwhile the assistants at the laboratory, Messrs. P. V. Garraway, Christiani, and Matthews, with Tambi, the messenger, developed similar alarming symptoms after drinking ice-water from the reservoir. On the Monday it occurred to Garraway that their illness might be due to poison, and on a cursory analysis of the water arsenic was found. An inspection of the water-receptacles showed that enough rat-poison had been placed therein to poison hundreds of people. Fortunately all the victims have nearly recovered by now, but Professor Harrison has been so ill that he will shortly leave for a prolonged holiday. So far no clue to the perpetrator of the outrage has been found.

American Notes.

(From our American Correspondents.)

SPONGE-FISHING REGULATIONS.—A law which has received President Roosevelt's approval prohibits the landing, etc., and the sale in the United States, of sponges taken by means of diving or diving apparatus from the waters of the Gulf of Mexico or Straits of Florida.

A POLITICAL PHARMACIST.—American pharmacists, like their British cousins, are occasionally seen in politics. Mr. Daniel W. Cahill, a well-known pharmacist in Watertown, N.Y., has recently received the appointment of State Superintendent of Public Buildings at a salary of \$5,000 a year and expenses. This position will not interfere with the continuance of Mr. Cahill's business.

PURE FOOD BILL.—The advocates of this Bill are pressing for an early attempt to get it through the House of Representatives. Some amendments by opponents (including patent-medicine makers) bar the way. One is intended to legalise the inclusion of small quantities of opium and morphine in medicines without a declaration to that effect being made on the outside of the bottle.

THE GRADUATION PREREQUISITE LAWS which have been enacted during the last two or three years in New York and Pennsylvania have resulted in a considerably increased attendance in the colleges of pharmacy. In the Brooklyn College, for instance, where about fifty or sixty graduates have received their diplomas every year, 111 were sent out in the graduating class a few weeks since, while there were something over 200 members in the graduating class of the New York College of Pharmacy.

THE A.P.A.—The "North-Western Section" of the American Pharmaceutical Association has been formed in Minneapolis, and will cover Minnesota and the adjoining States. Professor F. J. Wulling, the well-known Dean of the School of Pharmacy of the University of Minnesota, has been elected President. The "North-Western Section" is somewhat different from the other local sections of the A.P.A. which have recently been formed, in that the latter have been restricted to one city in each case. Branches in Pittsburgh, Pa., and Cleveland, O., are likely to be formed at an early date.

ANTI-CUTTING TROUBLES.—The air is full of litigation in these days. Three patent-medicine proprietors are bringing actions against no fewer than fifteen cutting druggists for violation or evasion of the direct-contract and serial-numbering plan. The latest to enter the arena is the Freeman Perfume Co., of Cincinnati. This concern has brought an action against a large retailer for \$21,600 damages. The charges are that the dealer, after signing the contract, purchased goods for distribution to a third party who was an aggressive cutter, and who afterwards sold them at low prices, to the injury of the proprietor.

LINKING-UP TEXAS.—The great State of Texas is the only State in the Union which does not have a single pharmacy law covering the entire Commonwealth. Texas is so large and so loosely knit together that the different counties or sections of the State have secured local legislation in pharmacy as in other things, and the result has been confusion worse confounded. The Texas Pharmaceutical Association now proposes to end this condition of things. At the recent annual meeting it was decided to make strenuous efforts to secure the enactment of the A.P.A. model pharmacy law to be applicable to every portion and section of the State alike.

ANTI-NARCOTISM.—The sentiment is slowly developing in America that the druggist who sells cocaine and other narcotics to *habitués*, or to those who are likely to become *habitués*, is a black sheep who should be ostracised from the flock. At the recent annual meeting of the Druggists' Association of Nashville, Tenn., a resolution was passed providing for the expulsion from the body of any member convicted the second time of selling cocaine illegally. At the meeting of the New Jersey Association the decision was reached to attempt the enactment, in the next Session of the Legislature, of the A.P.A. model anti-narcotic law regulating the sale of cocaine, morphine, and other similar habit-forming drugs. Illinois seeks to secure a similar enactment.

Trade Notes.

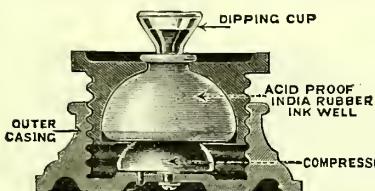
W. H. BAILEY & SON, LTD., 38 Oxford Street, London, W., inform us that their business was converted into a limited company for family reasons (*C. & D.*, July 28, p. 117). No issue of shares will be made to the public. Mr. C. H. Bailey and Mr. G. F. Bailey will, with the present staff, conduct the business on the same lines as heretofore.

A JUNKET BOOK.—Messrs. Oldfield, Pattinson & Co., Manchester, have published a book of junket-recipes involving the use of the "Silver Churn" essence of rennet. From a perusal of some of the recipes we can quite believe in the appetising qualities of the various dainties in which junket plays a part, and recommend those chemists who are intent on waking up the junket department to make inquiries for the booklet. Now is the time to push essence of rennet.

JOHN BELL'S TOOTH-POWDER.—An advertising campaign is being started in connection with this tooth-powder by the proprietors, Messrs. John Bell & Co., pharmaceutical chemists, 225 Oxford Street, London, W., which is bound to bring a demand from the public. A coupon scheme is part of the plan, and the applicants will be furnished with the name of the nearest chemist from whom regular supplies may be had. The object of this note is to suggest that, in view of the campaign, those chemists who have not yet added Bell's tooth-powder to their stock should do so.

"NAPIER" INK-STAND.—Mr. Edward Darke, 14A Great Marlborough Street, Regent Street, London, W., the patentee of the "Sapphire" inkstands, has recently brought out a new variety of inkstand, called for distinction the "Napier." The illustrations give

an idea of the appearance of the inkstand and also the construction. The outer part is made of a special composition,



and is arranged so that the upper portion can be raised or lowered by a screwing motion. The ink is contained in a rubber vessel, and the action of screwing the outer case up or down brings the ink into the dipping-cup or lowers it out of sight. The dipping-cup is of glass, and is readily removable for cleaning. The advantages are that the ink is kept clean and there is no leakage or evaporation. The "Napier" inkstand sells at 5s. 6d.



HAZELINE CREAM has been a well-known proprietary on chemists' counters for many years, but recently Messrs. Burroughs Wellcome & Co. have placed the cream on the market in a new guise. The latest form of package is a glass jar with screw-top lid, the whole enclosed in tastefully decorated carton. This style has not only the charm of novelty, but will, we feel sure, be preferred by many customers to the packing hitherto familiar. We illustrate the carton which indicates the design of the label.

FORMAMINT.—We have examined some tablets of formamint sent by Messrs. A. Wulff & Co., 83 Upper Thames

Street, London, E.C., which seem to possess some novel points. Formamint is a combination of formic aldehyde with sugar of milk, and it is claimed that the irritating effects of formic aldehyde on the mucous membrane are in this way neutralised. Hitherto it has not been possible to use formic aldehyde for mucous surfaces on account of the pronounced irritating effect. The advantages of using such a disinfectant as formaldehyde in certain conditions of the mouth and throat are obvious. Formamint tablets dissolve slowly in the mouth, and are used in cases of quinsy and septic sore throat. If desired the tablets can be dissolved in warm water, but generally it is found that better results are obtained by sucking them, the slower action being preferable. Formamint tablets are put up in bottles of fifty, and sell at 1s. 9d.

Trade-marks Applied For.

Objections to the registration of any of the undermentioned applications should be lodged with C. N. Dalton, Esq., C.B., Comptroller-General of Patents, Designs, and Trade-marks, at the Patents Office, 25 Southampton Buildings, Chancery Lane, London, W.C., within one month of the dates mentioned. The objection must be stated on Trade-marks Form No. 7, cost £1, obtainable through any money-order office.

(From the "Trade-marks Journal," July 25, 1906.)

"SODDROPS"; for liquefied gases for aerating in capsules and cartridges. By T. Sterné, 182 Rue de Rivoli, Paris. 283,357.

"ODICO"; for chemicals in Class I. By Odic Plastic Composition Co., Ltd., 33 Broad Chare, Newcastle-on-Tyne. 283,949.

"GREAT AUK" and design thereof; for chemicals in Class II. By Johnson & Phillips, Ltd., Charlton, Kent. 283,808.

"SOLZONE"; for medicines, ointments, embrocations, and oils. By S. Fraser, 45 Ladbroke Square, London, W. 280,854.

Triocolor (red, white, and blue) slip device; for toilet paper. By the British Patent Perforated Paper Co., 32a Cowper Street, London, E.C. 281,682.

"VERNIT"; for an ointment. By the Boden Mfg. Co., 68 Fleet Street, London, E.C. 282,018.

"M. APPLEBY" (signature); for ointments. By Mary Appleby, 84 Hilltown, Dundee. 282,239.

"KEFINNIE"; for an ointment. By T. Foster, 25 Park Grove, York. 283,106.

"SUCROLINE"; for caramels, colourings, finings, preservatives, etc. By F. Kendall & Son, Ltd., Stratford-on-Avon. 280,868.

"TEE TAO (Razor)" in English and Chinese; for candles, soap, detergents, etc. By J. Crosfield & Sons, Ltd., Warrington. 282,012.

"HORIZON"; for candles, soap, detergents, etc. By Wilkie & Soames, Ltd., East Greenwich. 282,912.

"ODIVIN"; for a tooth-preparation. By W. Pelzer, Kreisstrasse 1, Laubenheim-am-Rhein. 279,416.

"ZANOL"; for perfumery. By Sanitas Co., Ltd., Limehouse, London, E. 281,027.

"CANEXIA"; for perfumery. By N. O. Nielsen, 61 Chancery Lane, London, W.C. 281,264.

"HALIFLOR" and circular and leaf device; for perfumery. By Haliflor Co. Ges. m.b.H., Doberan, Mecklenburg. 282,642.

"FLYOL"; for perfumery. By J. D. Bulcock, "Ingledene," Darley Drive, W. Derby, Liverpool. 282,981.

"SAMARITER"; for perfumery. By Lever Bros., Ltd., Port Sunlight. 283,455.

"THYLOL"; for a mouth-wash. By C. Benson, 113 Finsbury Pavement, London, E.C. 283,789.

(From the "Trade-marks Journal," August 1, 1906.)

"DECROLINE"; for chemicals in Class 1 and for raw materials. By Badische Anilin & Soda Fabrik, Ludwigshafen-am-Rhein. 283,531, 283,530.

"PETRASALIN" ("Petrosal" disclaimed); for chemicals in Class 2. By B. C. Tipper & Son, Balsall Heath, Birmingham. 281,317.

"MONGOOSE" and device thereof; for disinfectants. By Hope, Hartope & Co., Oak Lane, Limehouse, London, E. 282,066.

"FEARLESS"; for disinfectants and sanitary compounds. By R. Wheen & Sons, Ltd., Deptford, London, S.E. 283,380.

Pharmacy in Denmark.

Education—Examination—Practice.

PHARMACEUTICAL education in Denmark is under the control of the Minister of Education, while the profession of pharmacy is supervised by the Council of Health under the direction of the Minister of Justice.

In order to become a licensed chemist and druggist in Denmark it is necessary to be registered as an apprentice in a pharmacy for three and a half years, after having passed a Preliminary examination in general education, including English, German, and French, besides a special examination in Latin. The chemist who engages an apprentice is bound to prepare him in all subjects required at the examination, which he has to pass at the end of his apprenticeship. This examination is practical and oral, and is held at the Pharmaceutical Institute in Copenhagen.

At the practical examination, which includes practical pharmacy and dispensing and a knowledge of the most common impurities of the chemicals included in the Danish Pharmacopoeia, a laboratory journal must be produced giving records of at least fifty preparations which the apprentice has made and described during his apprenticeship. The oral examination includes chemistry, *materia medica*, pharmacy, prescription-reading, translating into Danish from a Latin Pharmacopoeia, and botany.

Botany is an important subject. The candidate must exhibit a herbarium consisting of at least 200 different Danish wild plants collected during apprenticeship. Each plant must be mounted on paper with the name, classification, the date and place where found affixed, and the student is examined regarding these plants.

The fee for the examination is 40 crowns. The examination is held twice yearly, and lasts about six days. On passing this examination the student is permitted to dispense prescriptions, but not to be the owner of a pharmacy, and only very seldom is he allowed to act as manager during the absence of the owner. Before doing so he must have attended the Pharmaceutical Institute in Copenhagen as a student for at least eighteen months, after which time he can go up for the higher examination called the

CANDIDAT-EXAMINATION.

The course for this is theoretical and practical, and the student routine is approximately as follows :

Practical inorganic analysis	...	220 hours.
Theoretical inorganic chemistry	...	186 "
Practical organic analysis	...	155 "
Theoretical organic chemistry	...	115 "
Quantitative analysis	...	150 "
Chemical preparations	...	140 "
Theoretical botany	...	146 "
Practical botany and microscopy	...	80 "
Practical <i>materia medica</i> and microscopy	...	100 "
Theoretical <i>materia medica</i> and microscopy	...	120 "
Physics	...	150 "
Pharmacy	...	83 "

It will thus be seen that dispensing is almost entirely neglected, nearly all the time being devoted to strictly scientific work. This examination may be passed in three degrees, but only those candidates passing in the first and second classes are permitted to become owners of pharmacies.

THE NUMBER OF PHARMACIES

is limited by the State. There are about 230 pharmacies in Denmark to a population of $2\frac{1}{2}$ millions, thirty-eight being in Copenhagen. Private individuals own eighty out of the total number of pharmacies; the others belong to the State. The owner of any of those eighty pharmacies may sell his property to anyone who possesses the proper qualification. These pharmacies are very valuable, as the State will only permit the opening of a new pharmacy in a district where business appears sufficient to warrant it. The Government pharmacies are rented to pharmacists for life. On one of these concessions becoming vacant, the Government advertise it, and generally select the oldest applicant for the post. He is usually a man who has spent about twenty-five years as an assistant in a pharmacy. The terms on which he acquires the concession are that he pays the Government a percentage of his net takings, the percentage increasing with his takings. The concessionary is not permitted to sell his

interest in such a pharmacy. In case of illness, he may appoint a manager to carry on the pharmacy for him, but Government must approve the appointment. In special cases Government grants the privilege to the widow to carry on such a pharmacy after the death of the pharmacist. In such circumstances a qualified manager is employed. If the owner of a pharmacy leaves his business for more than two days he has to report the fact to the medical officer of health and state whom he has appointed manager during his absence. Pharmacies are

OPEN TO INSPECTION

at any time, the inspector being a specially appointed pharmacist, who acts under the medical officer. These inspections always partake of the nature of surprise visits. The inspection is most thorough, and in the case of a large pharmacy lasts two or three days. All drugs are examined to find whether they are up to the Pharmacopoeia standard.

The poison laws are very antiquated and very strict. Almost the only way to get a poison is by prescription from a qualified medical practitioner. Mechanics, however, may obtain the poisons they require for their work by sending a written requisition, stating at the same time for what purpose it is required. The chemist is by law obliged to make certain of the purchaser's identity, and he must enter in the poison-book the date of sale, name and address of purchaser, name and quantity of article sold, purpose for which required, how the purchaser has identified himself, and the name of seller. None of the poisons enumerated in the Schedules to the British Pharmacy Acts or poisons of a like nature may be sold in Denmark without prescription.

Prescriptions which include morphine or its salts may not be repeated, and after the first dispensing it is the duty of the dispenser to stamp the prescription that it is annulled. When emetics, carbolic acid, and solutions of over 5 per cent., ergot of rye, arsenic, strichnine, corrosive sublimate, sulphonal, trional, veronal, and substances of a like nature are prescribed, the doctor may order the prescription to be repeated five times, then the prescription is annulled. When a doctor prescribes poison in a mixture for his patient, and he only wants the prescription to be dispensed once, the dispenser is by law bound to respect the doctor's wish. Medicines are probably cheaper in Denmark than in any other country. The retail prices for all the Pharmacopoeia preparations and the price for preparing any pharmaceutical preparation are fixed by the Council of Health.



GAMMEL TORVS APOTHEK. (See *C. & D.*, May 5, p. 695.)

The Transvaal Minor.

SUBJOINED is a complete set of papers given to a single candidate at the May examination by the Transvaal Pharmacy Board:

MATERIA MEDICA.

Examiner, Mr. R. Butters.

Recognise specimens of jaborandi, stramonium, strophanthus, hyoscyamus, senna, coca, cinchona, etc.

Give percentages of quinine, cocaine, morphine, codeine, atropine, picrotoxin, strychnine.

Give percentages of santal oil, castor oil, croton oil, olive oil, savin oil.

From what drugs are the following got?—Strychnine, caffeine, and cathartie acid.

How is cocaine prepared and where? Give a description of the process.

PRACTICAL PHARMACY AND DISPENSING.

Examiner, Mr. J. H. Dinwoodie.

Time allowed, Three Hours—from 10 A.M. to 1 P.M., or 2 P.M. to 5 P.M. (In awarding Marks in this Subject, the time taken by the Candidate in doing the work is taken into account; also neatness in writing and general finish.)

Resin. jalap.	...	...	...	gr. $\frac{1}{2}$
Tr. card. ep.	...	...	...	mx.
Tragacanth.	...	...	...	gr. $\frac{1}{2}$
Syrup.	...	...	...	mx.
Aq. cinnamon. ad	...	...	...	3j.
Misco. Ft. mist.	Mitte	3vij.		
Coch. med. ij. t.d.s.				
Pil. plumbi e. opio	...	...	...	2
Ft. pil. j. Mitte x.	Varnish.			
Ceræ albae	...	...	...	gr. lx.
Adipis suillæ	...	...	...	gr. cxx.
Liquoris plumbi subacetatis	...	...	...	5ss.
Olei cadini	...	...	...	5ss.

Misce ut fiat ceratum.

Sig.: Sternum applicandum omni nocte.

Make four glycerin suppositories. Capacity of mould 1 fl. dr.

Make 3j. solution H₂Cl₂ so that 5j. diluted to $\frac{1}{4}$ pint = 1 in 1,500.

PRESCRIPTION-READING.

Examiner, Dr. J. van Niekerk.

Translate into full Latin:

Take Resin of podophyllin, one-sixth of a grain.

Extract of nux vomica, one-quarter of a grain.

Dried sulphate of iron, one and a half grain.

Compound rhubarb pill-mass, two grains.

Make a pill and send twelve.

Sign: Let the patient take one twice daily for three days; afterwards one every alternate night.

Translate into English:

Recipe	Menthol.	...	...	...	5 per cent.
	Chlor. hyd.	...	...	...
	Camphoræ	...	...	aa.	10 per cent.
	Ol. olivæ ad	...	...	...	3j.

M.

Sig.: Applicand. m. d. donec dolor cessaverit.

State whether you consider this a correct prescription, and your reasons:

Pot. brom.	...	...	...	...	5ij.
Liq. ammon. acet.	...	...	...	...	3j.
Syr. scillæ	...	...	...	...	3j.
Tr. digitalis	...	...	...	...	5iv.
Aquam ad	...	...	...	...	3iv.

M.

Sig.: 5j. ter in die.

Mention some substances incompatible with bromides and iodides, which are sometimes prescribed.

(Oral examination in autograph-prescription reading and posology.)

BOTANY.

Examiner, Mr. John R. Jones.

Name the organs of nutrition and reproduction.

State the differences between an exogen and an endogen, giving examples.

Give the various kinds of stems and branches, and mention one of each.

Give the botanical names and orders of twelve flowers before you.

What are the characteristics of the following orders?—*Ranunculaceæ, Compositæ, Labiateæ, and Liliaceæ.*

Demonstrate by the microscope an exogen, endogen, and cryptogam.

What are the fruits of the castor oil and senna?

Names and orders of thirty dried specimens, and point out anything striking.

PHYSICS AND CHEMISTRY.

Examiner, Mr. W. T. Skinn.

First day: Practical (2 P.M. to 5 P.M.).—Two substances given to analyse (tartarated antimony and salicin). Estimate the percentage of HBr in a sample of concentrated hydrobromic acid.

Second day: Theoretical.—Comprised a *vivæ voce* examination on the manufacture of alcohol, ether, ethereal salts, aldehydes, benzene, phenols, chloroform, phosphorus and its acids, calcium metal and salts of calcium, iron, steel, and various ferrous and ferric salts. In physics the questions turned on the determination of boiling-points, barometric and thermometric calculations, and the properties of gases.

PHARMACY.

Examiner, Mr. B. Owen Jones.

Give the definition of the following terms: Saponification, elutriation, lixiviation, hydrolysis.

What are alkaloids, neutral principles, and glucosides? Give examples of each. What are an "ester" and an "imide"?

Describe the process for the estimation of a sample of peroxide of hydrogen for available oxygen.

What is the tar of the B.P., and how obtained? How would you distinguish between coal-tar and Stockholm tar?

How would you prepare ext. ipecac. liquid. ? What alkaloids does ipecacuanha-root contain and percentage? Give the assay process.

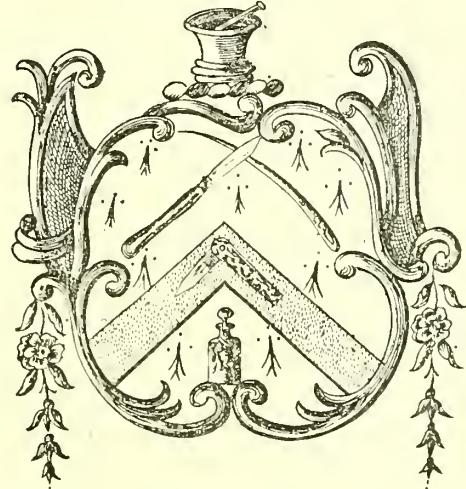
How do you make glycerin, acid, boric, ? To what is the loss in weight due during process and what is formed?

Give the preparation of the following: Ferri et quininae cit., ext. ergotæ liq., pil. phosphori, spt. ammon. aromat., emplastrum menthol., acid. sulph. aromat. What is formed in the last-named preparation during the reaction between the alcohol and acid?

What is sublimation? Mention five examples. Give method of preparation of two.

What is a litre? How many minimis are contained in 100 c.c.?

Pharmaceutical Book-Plate.



RICHARD SKUES

SELSTON

The book-plate of a surgeon showing the instruments used in his profession.

Scientific Progress.

Temperatures under this heading are on the Centigrade scale.

Styraçol is a combination of guaiacol and cinnamic acid. It is decomposed into its constituents by introduction into the body. It is claimed to be a good method of administering guaiacol.

Isotachiol.—This is a new organic salt of silver, of which the composition is not yet published. It is claimed to be suitable for sterilising potable waters by using 1 part in 500,000. It appears to be a fluorine compound.

Mergal.—This compound is the mercuric salt of cholic acid, of the formula $(C_{24}H_{32}O_8)Hg$. It is a yellowish-green powder, almost insoluble in water, but easily soluble in alkaline liquids. It is also soluble in a salt solution. It is recommended as an excellent means of administering mercury in a form which is easily decomposed into the free oxide in the stomach.

Estoral.—This body is the boric-acid ester of menthol. It forms a white crystalline powder with a feeble odour of menthol. It is stable when dry, but in contact with liquids it rapidly breaks down into its constituents. It is a useful form of administering menthol, but should be mixed with an equal weight of milk-sugar, as otherwise the liberation of pure menthol may burn the mucous membranes.

Eutannin.—This is a crystalline compound of sugar of milk and tannic acid, melting at 234° . It is easily soluble in warm water, alcohol, acetone, acetic ether, and amyl alcohol. It contains one molecule of water of crystallisation. It appears to be identical with the body chebulic acid, long known as a tannin compound present in myrobolans, and was referred to by Professor Thoms at the International Congress in Rome (*C. & D.*, May 9, p. 752).

The Chronostilloscope or Echantilloscope.—E. Varenne (Paris) described at the International Congress of Applied Chemistry a little apparatus (fig. 1) for rapidly examining liquids by noting the time the liquid takes to flow or filter through a capillary tube. Each liquid has its own special coefficient of filtration. The apparatus is specially adapted for checking the identity of a liquid that has been furnished to match a sample. If not absolutely identical, some addition or abstraction has taken place. On the same model M. Varenne constructs a Lactostilloscope for testing milk, a table of corrections for different temperatures being supplied. The time of filtration is taken by an ordinary watch or a special chronoscope, and the apparatus can be used by non-scientific persons.

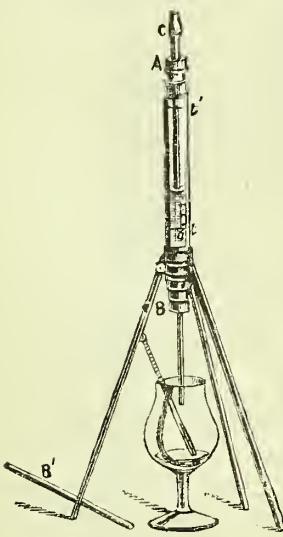


FIG. 1.

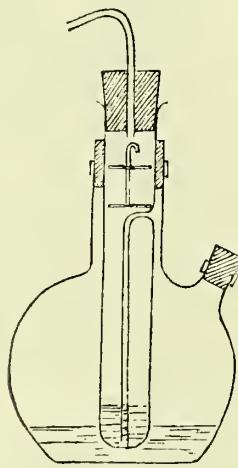


FIG. 2.

Estimating Volatile Acids of Wine.—M. R. Saunier (Cauderan) exhibited a flask (fig. 2) he has designed for this purpose, which is a modification of Pasteur's method as adapted by Gayon, Mathieu, Rocques, and Selliers. The wine is warmed in a water-bath and the volatile acids carried off by means of a current of water-vapour. A metallic valve prevents the wine from being carried over. A solution of calcium chloride boiling at 120° C. is used in the water-bath.

Conundrum Column.

The Puzzle Prescription

given in THE CHEMIST AND DRUGGIST last week (p. 244) has proved a stumbling-block to many of the competitors who tried to decipher it. The following is the reading of the prescription :

R. Himrod's asthmatic cure	... 1 box
R. Glycerol pepsinæ	... 3ss.
Succus tarax.	
Acid. nit.-hyd. dil.	... 5ss.
Succus tarax.	... 3j.
Syr. prunæ	... 3j.
Tr. ignatiae amaræ	... 5ij.
Aq. ad	... 3vij.

S. : 3ss. q.q. 4tā horā ex aquā.

The writer of the prescription absent-mindedly had written in succus taraxaci twice, but on the first essay had not added any quantity. It was this and the second entry of succus taraxaci which caused trouble with our competitors. Arguing that the prescriber must have meant to order two kinds of juices, much ingenuity was expended in finding two juices which would suit the circumstances. The different juices mentioned by competitors are as follows :

Succus taraxaci	Succus franguli
Succus stramonii	Succus limonis
Succus mori	Succus ari
Succus hyoscyami	Succus rhamni
Succus conii	

The following four competitors succeeded in correctly transcribing the prescription, and we award half a crown to each of them :

Mr. W. H. LUDLAM, 6 West Street, Fleetwood.

Mr. B. LOGAN, Johnston's Medical Hall, Downpatrick.

Mr. WALTER KELSEY, c/o Boots, Ltd., Guernsey, C.I.

Mr. JAMES BRAY, 220 Paisley Road, Glasgow.

For Next Week.

Will subscribers, their assistants and apprentices send us postcard solutions in rhyme of what medicament the following sketch represents?



THE ANNUAL REPORT of the Governor of St. Helena states that a prospector from Cape Colony has found large deposits of manganese ore in the island. It is hoped that a company will be formed to work the deposits.

Observations and Reflections.

By XRAYSER.

"Why Swim the Channel,"

asks the frisky South-Eastern Railway at the head of a placard interposed among its sedate time-tables. "Why swim the Channel when you can go from Dover to Calais and back for" so many shillings? And the *C. & D.* Educational Number suggests a similar announcement to be posted outside Somerset House. "Why climb Parnassus when you can get to the top by the lift within?" Compare this royal road to the summit with the toilsome plodding which is the alternative. Note the eminent examples who have chosen the short and easy way. Ask Lord Ebury, of the Army and Navy Stores, Mr. Harrod (if there is such a person), Mr. Whiteley, or Mr. Gamage, if he would ever have ruled a great department-business if he had wasted ten hours a week of his early years on a syllabus of study, such as the *C. & D.* sets forth so relentlessly, on one little section of his machine. "Most admirable knowledge," these gentlemen would say; "to a reasonable extent we are willing to hire it; we reckon its present market-price at about two-pounds-ten a week." Which is under their estimate of their own value. So struggle up the long hill, young gentlemen, as the *C. & D.* directs. Pay your fees, grind away at your books, your herbaria, your analyses, your oleate of mercury ointment. At last you will scale the height; the President will shake hands with you; and you will find the heads of these department stores already at the top before you, and perhaps they may graciously accept your services.

"Hidden Knowledge

differs little from ignorance." That was the opinion of Horace. "To know a thing is nothing unless others know that you know it" is a more modern aphorism. Special knowledge may be reasonably acquired from several motives. It may, for instance, be bought to be sold again, as when a person fits himself with what is necessary to know for his business, or gets up a subject, as a barrister does, for a particular occasion. It may be collected merely for the gratification of vanity, as a member of Parliament collects facts when he proposes to show off. "Take from the learned the pleasure of being heard," says Rousseau, "and the love of learning would vanish." Again, there always have been and always will be, in every branch of knowledge, a select few impelled to study that branch by sheer love of it; by an inclination of mind which cannot be mastered. Such men were Cavendish, Humboldt, Linnaeus, Gibbon, Livingstone; and it is to men of that sort that we owe the best work. In all these cases the attainment of the knowledge serves its purpose, and to that extent satisfies. But knowledge acquired for examination-purposes only—never to be utilised, never to be displayed, never to be enjoyed—this differs from ignorance only in that its acquisition has blunted intellects which might have been employed on more congenial work. There is an application of this homily to the pharmaceutical examinations, but it need not be demonstrated here.

Professor Wyndham Dunstan,

as President of the Chemistry Section of the British Association, gave one of the most interesting addresses contributed to the York meeting. Like so many of his colleagues, he had to proclaim the inevitable designs on the national cashbox. This appears to be the shibboleth of the recognised scientist. But

Professor Dunstan managed to make his demands look at least plausible. Consider this great British Empire, he said in effect, with its varied climes and the unlimited resources available within it. Is it not the duty of the State to spend money to develop such possessions? See what has been done in bringing within our own borders the cultivation of tea, coffee, cotton, indiarubber, and other substances essential to our comfort or to our commerce. And consider, too, what treasures may lie concealed in the thousands of animal, vegetable, and mineral products of countries under British rule, and which might be discovered if the Government could only realise the possibilities of the Empire as we men of science can. Are not you, British people, proud enough of your inheritance to agree on the "pressing need that the State should recognise more fully than it has hitherto done the claims of scientific investigation"? The answer to this demand is that

The State Already Pays

for a large amount of scientific investigation, and is apparently ready to pay for more whenever the pressing need can be shown. The Imperial Institute itself, which Professor Dunstan directs, is paid for out of the money voted for the Board of Trade. Botanic gardens and experimental stations have been established, as Professor Dunstan admits, in some of our Crown Colonies, and it is national money which has paid for these and also for "the excellent work done" by Harrison in British Guiana, Watts in the West Indies, Bamber in Ceylon, and others. Only a day or two before the British Association met, the House of Commons was voting appropriations to art and science which should at least be recognised. There were 130,000*l.* to the Board of Agriculture, 15,000*l.* to the Meteorological Council, 177,642*l.* to the British Museum and its dependencies, 200,400*l.* to universities and colleges (an increase of 3,100*l.* over last year, Sheffield taking 2,000*l.* and the Welsh Colleges an additional 1,100*l.*). Kew Gardens get 19,285*l.*, the Royal Society 21,000*l.* (5,500*l.* more than usual to pay for buildings and equipment of the National Physical Society), the Marine Biological Association 1,000*l.*, the Royal Geographical Society 500*l.*, and it need not be said that Scotch and Irish Societies and Academies are allowed their share of dips into the public bag. Painting and music are generously encouraged; literature scantly ditto. There figure among the appropriations an item of 100*l.* for researches into Celtic MSS. and a special grant of 250*l.* to the International Seismic Association. These charges are supplementary to the trifle of twelve millions a year spent on education, which we were at one time assured would make everyone capable of pushing his own way in the world. All this is done by a Government which cordially approves of but cannot afford the 100,000*l.* which it estimates a penny post with America would cost.

One Argument

for that postal reform which even Mr. Henniker-Heaton has not mentioned is the extent to which correspondents are already anticipating it. An American firm in the drug-trade writing to me on the subject complain that their English business correspondents are very lax in this matter. "We might almost say," they add, "that the majority of communications received from English houses are insufficiently stamped." In the week when they wrote they tell me they had paid 10*6c.* excess postage on letters from England. They amiably attribute the annoyance to that convenient delinquent the office-boy, but this young gentleman is at the worst only an accomplice.

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Editorial Comments.

Ticket-writing.

Now that the subject of window-displays is to the fore, it will not be out of place to refer to an important branch of the subject—ticket-writing. It is conceded that neatly prepared tickets are essential to success in window-dressing, and usually the preparation of the tickets falls on the professional writer. This is an expensive item where the window is frequently changed. Many chemists are quite capable of turning out presentable window-tickets, and others with a few hints could secure results equal to the professional product. It is just the difference between much and little practice with most chemists. The written tickets which are referred to in our correspondence columns give a very neat effect, and although not confined in their use to specimens of drugs, are particularly suited for such displays. A little more variety in lettering and colour is desirable in the case of tickets referring to toilet and fancy articles. The mounts and cards sold for photographic purposes, and kept in stock by most chemists, are quite suitable as the basis of a window-ticket. The variety of photographic mounts is yearly increasing, but in case some of the fancy colours are not obtainable the stationer can generally supply paper in unusual tints, and this, when affixed to a card, is available as a ground for window-tickets. It is understood that the card must be carefully squared, although this question does not arise where ready-made photographic mounts are employed. The cards can be used direct without sizing. In regard to the materials required for ticket-writing a supply of artists' ink and colours is necessary.

The inks are known as "waterproof Indian ink" and "fixed artists' black," the fixing-ingredient being probably an aqueous solution of shellac in borax. These inks cost about a shilling a bottle, and, with Chinese white in liquid form, will be the staple of the ticket-writer's outfit. For colour-work either powdered or prepared colours in tubes will be required. The powdered colours are the cheaper where large surfaces have to be covered. Before use the powders are prepared by rubbing down with water, weak mucilage, or shellac solution on a slab, using a spatula as in the ordinary pharmaceutical operation of ointment-making. The thin cream which results is the paint. Where but small quantities of water-colour are required the tubed products are more convenient. The quality used by students is sufficiently pure for ticket-writing purposes. Some chemists are content to use ordinary camel-hair pencils for ticket-work; but when red sable has been once tried the former will probably be abandoned. The artists' colourmen sell a special pattern of red-sable brushes for writers which are superior for the purpose. The sizes most useful are "crow" and "small goose," these costing about 4d. and 1s. respectively. Wash-brushes of black Siberian ox-hair are best for filling in large surfaces, and have practically replaced the gilders' mop formerly used for that purpose. When gilding or bronzing is to be introduced, slightly different procedure is needed. The gold and silver leaf employed is the same as is used for pill-coating, but in the present case it is for convenience "transferred" to plain paper. The method of transferring is to wax sheets of paper slightly and evenly with paraffin wax and then lightly press the waxed surface on to a leaf of gold; the gold adheres, and is afterwards easily manipulated. Silver leaf is treated in the same manner. The surface which it is desired to gild is first sized, then painted with gold-size, and when the size is nearly dry the gold leaf is applied. When the gilded surface is quite dry it may be burnished with an agate, but a little knack is required to get the best results. A simpler method of getting metallic effects is to use bronze powders. These are obtainable in a great variety of colours, some of the fancy tints having a very pretty effect on tickets. The bronzes are sprinkled or dusted on to a gummed surface. As regards drawing-instruments a pair of compasses is indispensable, while T-squares, parallel rules, and set-squares are conveniences which make for accurate work. Drawing-pens, such as artists use, are best for making clean lines, such pens costing about 2s.; but ordinary J, N, or G nibs can be used. There are points about designing alphabets which we should have liked to touch on, but for those who have not got good models to write from we recommend Vere Foster's drawing-books, some of which are devoted to ornamental alphabets. There remains the stencil-plate for those who do not feel capable of turning out passable lettering on window-tickets. Stencil alphabets are obtainable in great variety, but are never quite so nice as lettering. The results are improved by filling in the blank spaces which have to be left in cutting the stencil. A little better finish is also given by edging the black letters with Chinese white. Special brushes, short stiff ones, are required for stencil-work. The beginner at ticket-writing is recommended to start with some dark enamelled or mat-surface photographic mounts and to use Chinese white for the lettering. More elaborate designs in colour and gold should be left till the tyro has become practised in lettering and colour-manipulation. The slack afternoons in August might well be devoted to practice in ticket-writing. The cod-liver oil, malt-emulsion, and skin-balm season is not far off, and it is not too soon to think about a design for a Christmas perfumery window-ticket.

Camphor-cultivation.

THERE has been much talk of late in Ceylon planting circles concerning the possibility of camphor-cultivation in that island, and many are anxious to learn whether operations are likely to prove profitable, especially in view of the extreme scarcity and high prices which now appear to be more or less permanent. Camphor has been cultivated for experimental purposes in Ceylon and India for a number of years, but not until quite recently has it been successfully produced. So far as we can learn, the planter has not the best methods of distillation at his disposal, and has not been able to extract camphor in paying quantities. This is well illustrated by the fact that nine months ago there were over one hundred acres under the camphor-plant in Ceylon, yet up to the present not more than a ton of crude camphor has been produced. Recently the Governor of Ceylon has been talking of the potentialities of camphor-culture, and since then there has been an unprecedented rush for seed. Concessions of land have been granted in Ceylon, and planting will shortly commence on a substantial scale; and as the climatic conditions are said to be similar to those of Formosa, there seems every reason that the experiment should ultimately be successful. It appears, however, there is great difficulty in obtaining true camphor-seed from Japan, as, naturally, the Japanese are prepared neither to assist the planter nor to give away the secrets of their distillation. If it were possible to get hold of a Japanese or Chinaman actually engaged in the camphor-industry, the difficulty might be quickly solved, as the Ceylon planter has everything to learn regarding distillation. In other words, he has a certain quantity of raw material at hand, and is as yet unable to obtain an adequate yield of the crude product. Mr. Kelway Bamber, the Ceylon Government chemist, has been at work for some time at Peradeniya, and has succeeded in perfecting an inexpensive still which it is hoped will render the process an easy one. The profit at present prices would be considerable, but a grower would probably have to take a much lower price than the ruling quotation of 350s. per cwt. The demand for camphor is only a limited one, but we believe the danger of over-production in Ceylon is remote, and that planters would be justified in going ahead.

Ever since the Japanese monopoly was established some eight years ago, the crude-camphor market has been more or less starved or only supplied with extremely limited quantities. This, of course, is not entirely the fault of the Japanese Government, as they have encountered many difficulties in working their monopoly in Formosa. Labour-troubles, native rebellions, earthquakes, and the late war have all contributed their quota in regard to diminished shipments. One fact, however, stands out prominent since the institution of the monopoly—*i.e.*, the refining of camphor in Europe and the United States has dwindled to a mere shadow compared with what it was a decade ago; and, in spite of official denials to the contrary, the refining is gradually passing into Japanese hands.

With the advent of extremely high prices undoubtedly the consumption has fallen off considerably, and where possible the public for certain disinfecting purposes have had to fall back upon the less-esteemed naphthalin, in which a large business is now done. This is, of course, only natural when it is considered that the wholesale price of refined bells in large quantities in the open market has been from 4s. to 4s. 3d. per lb. for over eighteen months. It was thought that after the Russo-Japanese war there would be a fall in price, but, on the contrary, the price rose to its present quotation, and at the moment the position is regarded as

exceedingly firm. It must not be forgotten, however, that there have been some exceedingly dull periods this year, and at times the article has almost "gone a begging," the extreme prices having frightened buyers.

Views on Education.

ONE of the most interesting sections of the meeting of the British Association at York was that dealing with educational science, and it is the more engaging because there is still room for a common agreement among teachers as to the form and subjects which should be taught to the young. Canon Lyttelton raised his voice against the practice of providing expensive teaching-appliances for instruction in science, his contention being that a very few simple instruments should suffice for teaching young boys, and that laboratories should be reserved for specialising above sixteen years of age. Professor H. E. Armstrong contributed to the discussion; as usual, his utterances were of a breezy character, and utterly regardless of conventional views on education. He was very scornful about school-teachers because they refused to participate in the scheme of school-leaving examinations which the Consultative Committee of the Board of Education produced three years ago, and which it was hoped would have helped to smooth the difficulties at present experienced owing to the multiplicity of Entrance examinations. It is generally acknowledged that at present examinations do little more than grade candidates in rough order of merit with reference to the particular test applied, and give little or no proof of merit.

A small group of pharmacists took the opportunity of the recent visit of the British Pharmaceutical Conference to Birmingham to study the educational facilities at the University, and inspected that part of the building devoted to technical subjects. One of these visitors tells us that the result in his mind has been to throw doubt on the usefulness of the technical department of the University. He asks if it is worth while having "limited" and second-rate editions of electrical-engineering workshops," and opines that lads would better learn the particular technique they desire at a proper factory, while the University endowments could then be spent to better advantage. It is quite probable that the pendulum of technical education has swung too far in one direction, and that the happy mean will only be reached in a few years. The Birmingham University, as is well known, specialises in training brewers, but it does not follow that an equipment of mash-tubs and fermenting-vats needs installing within its walls. There is a complete brewing-plant at the Birmingham University, but it is conceivable that a qualified and capable chemist who decides to specialise in brewing could soon acquire the necessary additional knowledge without burdening his college with such awkward accessories as a complete brewing-plant. A real chemist would soon outstrip the young man who has been nurtured amid the toy brewing-plant of a university. These views can readily be applied to other industries, while in the case of pharmacy and the drug-trade it is not difficult to see that the apprenticeship-system, well carried out, cannot be approached in regard to thoroughness by such instruction as is given in technical schools. This is a side of the matter that has often been referred to, but whether the advocates of laboratory instruction in technical subjects have made out such a good case as they imagine remains to be seen. It is not unlikely that the education imparted in the secondary schools is unsuitable for training the mind, but here, again, teachers say they are helpless in face of the requirements of competitive examinations. One of the

stiffest examinations of the day is required of those who desire to register as chemists and druggists, and the examination has the approval of the leaders of pharmacy. Is it small wonder that the ranks of the unqualified increase? The curious thing is that scarcely a voice is raised against the additional burdens which are proposed to be placed on the trade by the Bloomsbury Pharmacy Bill.

A Radium Discussion.

There is an argument in progress between physicists and chemists as to whether radio-activity is sufficient to account for the internal heat of the earth. The discussion began at the York meeting of the British Association, when Professor Soddy, in the Mathematical and Physical Section, referring to the possible transmutation of the elements, stated that the production of helium from radium has established the fact of the gradual evolution of at least one element into another. The Hon. R. J. Strutt, in a subsequent discussion, maintained that there is much more radium in rocks than would be needed to maintain the earth's internal heat if the earth were constituted of rock throughout. Professor J. Milne gave some curious experiences as to the luminosity of rocks in the middle of the night, the observations being made by automatic photographic apparatus. Sir William Ramsay and Sir William Crookes contributed to the discussion. A few days afterwards Lord Kelvin, who is at Aix-les-Bains, wrote to the "Times" objecting to the above statements. The experiment of Sir William Ramsay and Professor Soddy on the transmutation of radium into helium he regards as interesting but isolated. The internal heat of the earth, Lord Kelvin contends, is mainly due to gravitation. The next day Professor H. E. Armstrong chimed in, backing up Lord Kelvin and stating that radium-workers have substituted pure imagination for scientific caution. Sir Oliver Lodge, continuing the discussion, reiterated the experimental data upon which the slow disintegration of radium into helium rests, the evidence being thus summarised :

Rutherford measured the magnetic deflection of the *alpha* rays, or positively charged particles shot off by radium emanation at a certain stage of its disintegration (for it does disintegrate, it is not permanent), and inferred that the mass of each particle was comparable with twice that of an atom of hydrogen; consequently that the projected particles were material, and that the projected matter, if it were any single known substance, must be either hydrogen or helium, and most likely helium. Ramsay and Soddy then enclosed some of the emanation in a vacuum tube and examined its spectrum. There was no sign of helium at first—as there would have been had it been merely an ingredient in a mixture—but the helium spectrum gradually made its appearance, in the course of a day or two, at approximately the rate to be expected on the disintegration hypothesis. The loss of much activity by radium when its emanation is removed from it and the gradual return of radio-activity when time is allowed for fresh emanation to be formed, are also facts to be remembered. The rest of the evidence for the slow disintegration of atoms is of a less direct kind, but it is voluminous and varied and seems extremely weighty.

Sir Oliver Lodge further points out that Lord Kelvin's theory, that the internal heat of the earth is due to gravitational energy, depends upon the assumption that the sun is slowly shrinking, but whether or not the sun is actually shrinking has not yet been determined. The Hon. R. J. Strutt also defends his views and asks, "What becomes of the heat generated by the radium admitted to be present in the earth?"

Work at the Imperial Institute.

The report on the Imperial Institute for 1905 has been published this week. The Institute, it will be remembered, was in 1902 placed under the management of the Board of Trade, assisted by an advisory committee upon which are

representatives of the India Office, Colonial Office, Board of Agriculture, and the Governments of India and the Colonies. Since then changes have taken place in the activities of the Institute, the Commercial Intelligence Department having been absorbed in the similar department of the Board of Trade, which has its headquarters in the City of London. The Scientific and Technical Department and exhibition of economic products of the Empire are still located at South Kensington, and are, according to the report of the director, Professor Dunstan, progressing. Some financial anxiety has been caused to the Institute on account of the cessation of the grant of 2,000*l.* a year which has hitherto been received from the Commissioners of the 1851 Exhibition. Retrenchment has been necessary, but nevertheless the accumulated balance of funds was encroached upon to a serious extent. Arrangements have now been completed by which the Scientific and Technical Department will be on a satisfactory financial footing, the loss resulting from the withdrawal of the Commissioners' grant being made up by contributions from the Treasury and from the Governments of the Crown Colonies and Protectorates which chiefly avail themselves of the services of the Department.

As to the scientific work that has been carried on during the year, most of it has been referred to in *THE CHEMIST AND DRUGGIST* as it was made public. The feature is perhaps the work done in connection with the mineral survey of Ceylon, which has led to the discovery of thorianite and a hope that the thoria trust will be broken down. Two British firms are now making thorium nitrate, thorianite being one of the sources of the raw material. A good deal of work has been done on rubber-trees, and has resulted in systematic planting of the trees, from which remunerative yields are expected in a few years. Particulars are given of the investigation on fodder-plants, which established the fact that the poisonous properties occasionally manifested in great millet and manihot are due to the development of prussic acid. A sulphuretted-hydrogen-containing mineral water has been discovered in Uganda, so that the inhabitants of South Africa will be able to enjoy the delights of Harrogate nearer home. Cape Colony oats, stated to produce a peculiar bone-disease in animals fed with them, were examined and found to be deficient in "certain mineral constituents which are important as bone-forming materials." Origanum oil from Cyprus is being imported in larger quantities to Great Britain, and selling better on an analytical basis devised by the Institute's chemists. Samples of castor oil from Southern Rhodesia were received at the Institute, and the suggestion was made that filtration would improve the quality from a commercial point of view. There are numerous other items of interest to industrial chemists, and plenty of evidence that at least the Scientific and Technical Department of the Imperial Institute is not *passe*.

Preserving Peroxide of Hydrogen.

Various agents have been used for the purpose of preserving peroxide of hydrogen, such as sulphuric and phosphoric acids, ether, and 95-per-cent. alcohol. M. Allain, at a recent meeting of the Paris Society of Pharmacy, stated that sodium chloride, in the proportion of 10 grams per litre, contributes very considerably to the stability of hydrogen peroxide. Calcium chloride acts similarly. The addition of sodium chloride does not alter the acidity of the solution, and M. Allain ventured on the opinion that a chemical combination is formed, which he hopes to isolate. As much of the peroxide of hydrogen sold in chemists' shops is used for bleaching the hair, there does not seem much objection to adding the small proportion of salt. On the other hand, it should be noted that objection might be

taken in some quarters to the presence of a body which is not normally a constituent of hydrogen peroxide.

Where are we?

(See Mr. Reid's letter, "C. & D.", August 11, p. 284.)

"Where are we now?" pathetic the inquiry;

Liko hapless sheep we've wandered from the fold,

Treading the path, so stony, hard, and miry,

That seemed so smooth once, in days now grey and cold.

"Where are we now?" the query plaintive wailing

Echoes but faintly o'er the cadence of the sea.

"Fishing and golfing : all else is unavailing.

We are all on holiday : where else should we be?"

Motor-goggles.

The "British Medical Journal" publishes a note under the above heading which serves as a reminder to chemist-opticians that as much care is needed in adjusting motor-goggles as in fitting spectacles. The object of the padded edges of motor-goggles is to relieve the pressure which the tight-fitting goggles might otherwise cause, as well as more perfectly to exclude dust. A more difficult problem opens up when a visually defective motorist needs goggles in addition to the spectacles he usually wears. The glasses may be worn on the outside of the goggles, or the glasses of the goggles may be replaced by correctly worked lenses, the latter being the better course to take. It is, however, a fact that many motorists neglect small corrections of vision when wearing goggles, due, perhaps, to the delay which ensues when special lenses are needed. In the case of cyclists, goggles would be worn more frequently if their advantages were better known or had not been so discredited by the sale of goggles made of improperly worked glass. Perhaps some chemist-optician will invent a combination of cyclist's goggles and air-filter, as at the present time dust is probably the greatest nuisance to users of country roads.

The Week's Poisonings.

ONLY two of the fifteen fatalities from poisoning that have occurred during the past week were misadventures. Amelia Gibbons (55), of Cardiff, died as a result of drinking a quantity of spirit of salt in mistake for whisky. Sarah Viney (3), of West Bromwich, obtained a bottle of disinfecting fluid, some of which she drank, dying shortly afterwards. At Cardiff Mrs. Julia Sampson (56) got rid of all her earthly troubles by taking a quantity of salt of lemon. Two suicides from laudanum are recorded—George Gideon Webber (33) drank a fatal quantity at Wormwood Scrubs, and it was also taken in overdose by Abraham Chapman (74), a Northampton labourer. Sophie Mothersole (33), wife of an Islington warehouseman, poisoned herself with oxalic acid. Jane Shaw (54) committed suicide at Ancoats by taking carbolic acid. Joseph Emberton, a commercial traveller, took oxalic acid in a Wolverhampton hotel, where he was staying, and died on the way to the hospital. The man's wife had died in the same hotel three weeks before. Potassium cyanide was taken by James Lyme (57), a general dealer, of Hoxton; by George Lowe (64), a Wednesbury photographer; by Walter George Taylor (30), an Islington silversmith; and by Caroline Edwards, wife of a toy-dealer in the Edgware Road. Stephen Holmes, a broken-down actor, ended his career at Heighington, near Darlington, by drinking a liniment containing aconite and belladonna. Julia Tulk (65), wife of a brass-finisher at Hackney, poisoned herself with spirit of salt rather than go into the workhouse.

THE CINNABAR-DEPOSITS existing in the department of Huancavelica (Peru) are still unworked. In former years they were considered to be of great importance. Attempts have been made of late to form a company for the purpose of resuming work in these old mines, but so far without success.

Legal Reports.

High Court Cases.

BRINE-PUMPING.

JUDGMENT was delivered by the Lord Chief Justice, in the King's Bench Division on August 10, in the case of the Salt Union, Ltd., v. Brunner, Mond & Co., Ltd. The plaintiffs asked for an injunction to restrain the defendants from abstracting salt and brine from land the property of the plaintiffs, and from pumping in such a way as to cause subsidence of the plaintiffs' land, also for damages (estimated at 38,800*l.*) for having done the acts mentioned. The defendants denied that they had pumped brine from the plaintiffs' mines, or that they had caused a subsidence of the plaintiffs' land, and held that they were entitled to pump brine in the manner complained of by reason of an indenture dated September 6, 1888, made between them and John Thompson, the plaintiffs' predecessor in title, from whom the plaintiffs purchased, subject to such right in the defendants.

The case occupied a week in hearing. On August 10 the Lord Chief Justice delivered judgment, dismissing the action, with costs.

The Druggist and the Doctor.

AT Birmingham Assizes on August 9, before Lord Coleridge and a jury, an action was heard in which Edward Wilson, druggist, of 128 Holloway Head, Birmingham, sued Edwin Wood, a retired doctor, for damages for loss of dispensing-practice. For the plaintiff, counsel stated that for a considerable number of years the defendant had carried on business as a chemist at 128 Holloway Head, in addition to his profession as a doctor, and from 1884 to 1896 the plaintiff acted as his manager. In 1896 the defendant was anxious to give up the chemist and druggist business, and plaintiff bought it subject to certain conditions. He paid 100*l.* for the stock, fixtures, &c., and 400*l.* for the goodwill. There was a surgery at the back of the shop, which the defendant was to have at a rent of 5*l.* Dr. Wood bound himself to have all his medicines made up at the shop, and Mr. Wilson agreed to make up these medicines at the uniform rate of 4*s.* per dozen bottles. Dr. Wood further bound himself, if he sold his practice, to pay the sum which he obtained for it to the plaintiff, and to bind his successor to a similar arrangement as regards medicines. In September 1901 Dr. Wood introduced a Dr. Smith as a partner. Dr. Smith eventually took over the practice, and plaintiff refused the offer of 60*l.* tendered to him by Dr. Wood as the price of the practice, which he (plaintiff) contended was worth 250*l.* Moreover, Dr. Wood had not bound over Dr. Smith to have his medicines dispensed by plaintiff, and Dr. Smith's patients had their medicines dispensed elsewhere. The plaintiff claimed 575*l.*, made up as follows: Value of practice, 250*l.*; loss of practice, 250*l.*; lost during past three years on sale of medicines and other articles, 75*l.* The price of the practice, counsel added, had been estimated at one year's takings. Mr. Northwood, a medical agent, said he considered Dr. Wood's practice to be worth one and a half year's takings, less 50*l.* on account of the covenant that Dr. Wood's successor should have his medicines made up by plaintiff, who was an unqualified chemist.

In the course of his evidence the plaintiff said that in the first year of his agreement he dispensed about 71*l.* worth of medicine, and the profit would be about 50*l.* Lately the dispensing had only averaged from 45*l.* to 60*l.*, and the profit would be in the same proportion. In cross-examination, plaintiff said there was a lot of work attached to 70*l.* worth of medicine at 4*d.* a bottle. He admitted that the cost of a bottle of medicine was only about a penny, and agreed that if he made up 71*l.* worth of medicines in a year, in ten years he would make 500*l.*—the price he had paid for the chemist's business. The business, apart from prescriptions, was worth about 150*l.* a year.

Defendant, in his evidence, said he could not have got a better offer than 60*l.* for the business. With the help of Dr. Smith it was raised to some degree. Dr. Smith was an assistant.

Dr. Smith said the reason he did not become Dr. Wood's successor was because the plaintiff refused the sum he was willing to pay and wanted 250*l.*

Lord Coleridge, in summing up, said there was nothing in the agreement which bound the defendant to go on practising or to obtain a purchaser. The defendant's story was that the business retired with him, and when he retired there was practically no business left. There was no clause in the agreement forbidding Dr. Wood getting a partner. He did not think a business like this, hedged round with covenants, would ever be worth much.

The jury returned a verdict for the plaintiff, assessing the damages at 200*l.*; but in order that the case should go no further the plaintiff agreed to accept 150*l.*

Bankruptcy Report.

Re JOSEPH REED SANDERSON, 1 Clovelly Gardens, Whitley Bay, lately residing at Brandling Arms, Felling, and carrying on business at 16 Blagdon Street, Blyth, Chemist and Druggist.—The Official Receiver (Mr. T. Gourlay, 50 Mosley Street, Newcastle-upon-Tyne) has issued a statement in this case which shows that the total receipts from the date of the receiving order were 156*l.* 8*s.* 7*d.* less 5*l.* returned to petitioner's solicitor. The total costs and charges for clearing up the estate amounted to 56*l.* 19*s.* 7*d.* An allowance of 2*l.* 10*s.* was made to the debtor, three preferential creditors received 7*s.* 5*s.* 8*d.*, and forty-one unsecured creditors are to be given a first and final dividend of 1*s.* 10*1/2d.* in the pound on 905*l.* 4*s.* 3*d.*, absorbing 83*l.* 18*s.* 5*d.* The debtor's estimate of amount expected to rank for dividend was 887*l.* 15*s.* There is a balance of 16*s.* 11*d.* The Official Receiver remarks that efforts to sell the stock, etc., by tender were not successful, and the subsequent sale by auction realised very poor prices.

Deeds of Arrangement.

Peake, William Alexander, 89 High Street, Barnet, Chemist. Dated August 1; filed August 8. Secured creditors, 483*l.* 10*s.*; liabilities unsecured, 986*l.* 2*s.* 10*d.*; estimated net assets, 89*l.* 2*s.* 3*d.* Composition of 5*s.* in the pound, payable on or before August 21, 1906. The following are creditors: Idris & Co., Ltd., London (39*l.*); Evans Sons Lescher & Webb, Ltd., London (60*l.*); J. Sanger & Sons, London (64*l.*); S. Maw, Son & Sons, London (36*l.*); Burgoyne, Burbidges & Co., London (14*l.*); Elliott & Sons, Barnet (15*l.*); North Metropolitan Electric Co., Ltd., Barnet (14*l.*).

Roberts, William Rowe, 368 Stretford Road, Manchester, Chemist. Trustee, Harry L. Price, 15 Fountain Street, Manchester, accountant. Dated August 1; filed August 7. Liabilities unsecured, 366*l.* 2*s.* 5*d.*; estimated net assets, 377*l.* 0*s.* 1*d.* The scheduled creditors include Messrs. J. Timpson & Co., Ltd., London (14*l.*); J. Woolley, Sons & Co., Ltd., Manchester (166*l.*); Oldfield, Pattinson & Co., Manchester (32*l.*); S. Wilson, Withington (12*l.*).

Gazette.

Partnership Dissolved.

Link, J., and Henning, A., Harrow Road, Leytonstone, N.E., chemical-manufacturers, under the style of Hedley & Co.

The Bankruptcy Acts, 1883 and 1890.

ADJUDICATIONS.

Master, Henry Hugh, South Melbourne, Victoria, Australia, late Ixworth, Suffolk, England, surgeon.

Morford, Rupert, Shepton Mallet, Somerset, veterinary surgeon.

Sansome, Percy Wilkins, Newport, Mon., artificial-teeth specialist.

New Companies and Company News.

SOUTHERN COUNTIES HOME SUPPLIES Co., Ltd.—Capital 5,000*l.*, in 1*l.* shares. Objects: To carry on the business of clothiers, etc., also opticians, photographic-material dealers, and dentists. No initial public issue. Registered without articles of association.

LONDON ASSOCIATION OF NURSES, LTD.—Capital 770*l.*, in 1*l.* shares. Objects: To take over the business carried on by Mrs. M. L. Bennett at 123 New Bond Street, London, W., and elsewhere, as "The London Association of Nurses," and to carry on the business of a nursing agency, nurses' home, private hospital, etc. No initial public issue. The first directors are Miss F. I. Briggs, Miss A. E. Briggs, and Miss F. E. Sipman (all permanent, subject to holding 100 shares each). Remuneration, 450*l.* per annum, divisible.

RAZORLESS SHAVING-SOAP CO., LTD.—Capital, 6,250*l.*, in 1*l.* shares. Objects: To carry on the business of chemists, soap-manufacturers, etc. The first subscribers are: P. B. Potter, 90 Sydenham Road, Sydenham, gentleman; E. Hacquoil, 233 Vicarage Road, Leyton, clerk; H. T. Wells, 18 Austin Friars, E.C., clerk; A. C. Dowsing, 17 Whellock Road, Bedford Park, W., secretary; W. A. Pittman, 18 Austin Friars, E.C., secretary; H. E. Williams, 26 Charnock Road, Clapton, N.W., gentleman; and R. Hill, 6 Deacon Road, Willesden Green, N.W., clerk. No initial public issue. The subscribers are to appoint the first directors. Qualification, 50 shares.

D. GORE BOODLE & CO. (WESTERN), LTD.—Capital 500*l.*, in 1*l.* shares. Objects: To carry on the business of buyers and sellers of teeth and all goods, commodities, preparations, materials, tools, and machinery used in connection with teeth and dentistry. The first subscribers (each with one preference share) are: J. T. Laidler, 26 New Jersey Road, Gloucester, stores-manager; D. Gore Boodle, Annandale House, Gloucester, dental operator; A. J. Shewell, 46 Derby Road, Gloucester, dental assistant; J. Boodle, Annandale House, Gloucester, secretary; E. F. Tombs, 40 Hopewell Street, Gloucester, clerk; H. Phillips, St. Bernard House, Gloucester, clerk; and J. Small, 26 Park Road, Gloucester, clerk. No initial public issue. The first directors are J. Boodle (chairman), D. G. Boodle, and S. J. Shewell. Qualification, 10*l.* Registered office, Annandale House, Barton Street, Gloucester.

SUGAR AND MALT PRODUCTS, LTD.—Capital 55,000*l.*, in 5,000 ordinary shares of 10*l.* each, and 5,000 deferred shares of 1*l.* each. Objects: To adopt agreements (1) with A. Boake, F. G. A. Roberts, and E. J. Boake, and (2) with A. Boake, Roberts & Co., Ltd., and to carry on the business of manufacturers, producers, treaters and sellers of and dealers in glucose, flaked maize, malt extracts and preparations, invert brewing and other sugars, and all products derived therefrom, saccharin materials and kindred substances, etc. The signatories are: F. G. A. Roberts, J.P., Oak Hill Lodge, Hampstead, N.W., manufacturing chemist; E. J. Boake, Aberfraw, Loughton, Essex, manufacturing chemist; A. E. Berry, 62 Claremont Road, Forest Gate, technical chemist; C. C. Ford, 13 Carisbrook Road, Walthamstow, chartered secretary; F. W. Lewis, Killeen, Buckhurst Hill, manufacturing chemist; H. W. Gutierrez, 90 Norfolk Road, Seven Kings, clerk; and G. F. Bartripp, 20 Grove Road, Wanstead, analyst. No initial public issue. The first directors are A. Boake, F. M. Roberts, and A. E. Berry. Qualification, 100*l.* Remuneration, 100*l.* each per annum.

J. TOUZEAU SAUNDERS, LTD.—Capital 4,000*l.*, in 1*l.* shares. Objects: To acquire the business carried on by A. J. Saunders at 312 Oxford Street, W., and elsewhere, as "J. Touzau Saunders, Ltd.," and to carry on the business of wholesale perfumers, druggists, dealers in druggists' sundries, soap-manufacturers, chemists, drapers, oil and colour men, etc. The first subscribers are: A. J. Saunders, 13 Exeter Road, Brondesbury, N.W., wholesale perfumer; S. T. Saunders, 43 Malden Road, Acton, W., perfumer; B. L. Saunders, 13 Exeter Road, Brondesbury, N.W., C.A.; A. H. Saunders, 10 Rockstone Place, Southampton, dental surgeon; H. W. Saunders, 43 Silverdale Road, Eastbourne, M.B.; H. S. Saunders, 103 Abbey Road, N.W., dentist; F. L. Tucker, 59 Gresham Street, E.C., merchant; and F. Woodbridge, 5 Serjeants' Inn, E.C., solicitor. No initial public issue. The first directors are A. J. Saunders, S. T. Saunders, and F. L. Tucker. Remuneration, five guineas each per annum. Registered office, 98 St. John Street, Clerkenwell, E.C.

BRITISH DYEWOOD AND CHEMICAL CO., LTD.—The directors' report for the year ended June 30 shows, after deducting 7,500*l.* for depreciation, an available balance of 15,971*l.* A dividend of 2*1/2* per cent. was paid on the preference shares in March last, and it is recommended that a further 2 per cent. be paid, making the full dividend to June 30, 1905. On account of the last financial year, it is proposed to pay 1 per cent. on the preference shares, leaving a balance of 221*l.* to carry forward.

EXPERIENCE.—A subscriber (53/58) writes: "I cannot speak too highly of the C. & D. or thank you sufficiently for the constant help it brings."

Practical Notes and Formulae.

AN OFFICIAL DENTIFRICE.

ON French warships the following dentifrice is served out to the men, who are instructed to use it each morning:

Potassium chlorate	...	...	10 grams
Boric acid (powder)	...	...	10 grams
Cuttlefish powder	...	...	60 grams
Oil of aniseed	...	...	5 drops

GREEN CORN-SOLVENT.

A SUBSCRIBER (110/58), who was troubled with salicylic collodion, coloured with Indian hemp extract, becoming black, has got over the difficulty by putting the extract direct into the bottle in which it is made. Formerly he weighed the extract on waxed paper, and put the paper and extract into the collodion. Made thus the collodion became quite black—owing, he thinks, to there being something in the paper which is dissolved by the menstruum and reacts with the salicylic acid or any tannin which may be in the extract. In any case, the observation is one which he passes along from the extreme East for the benefit of his *confrères*.

SHEEP AND CATTLE DIPS.

A NUMBER of dips of various kinds were analysed by Mr. C. F. Juritz, Senior Analyst to the Cape Colony, during 1905. In his annual report he gives the results of his investigations as follows:

DEMUTH'S NEW CONCENTRATED CATTLE-DIP was found to contain 10.6 per cent. of arsenious oxide.

WATKINS' PASTE AND POWDER DIPS yielded respectively the following analytical results in proportion per cent.:

	Paste.	Powder.
Arsenious sulphide	...	9.28 1.72
Arsenious oxide	...	18.60 20.85
Free sulphur	...	57.86 72.54
Total sulphur	...	63.26 75.28

The paste was quite hard, and had to be crushed previous to analysing.

SWISS ARROW BRAND TOBACCO EXTRACT contained 7.5 per cent. of nicotine.

XL-ALL POWDER AND LIQUID DIPS were also analysed; the former gave the following figures:

Arsenious sulphide	...	...	10.60 per cent.
Total arsenic (calculated as As ₂ O ₃)	...	22.80	"
Free sulphur	...	51.16	"
Total sulphur	...	55.75	"

The liquid dip contained 7.5 per cent. of nicotine.

MORTIPEST SHEEP-DIP AND CATTLE-WASH was found to contain 10.05 per cent. of nicotine.

AFRICANDER SHEEP-DIP gave 4.8 per cent. of lime and 10.1 per cent. of sulphur.

LAIDLAW'S EXTRACT OF PURE TOBACCO.—Three tins were examined. The contents were not of the same consistency in each case; in two tins the extract was practically a paste, while the contents of the third were fairly liquid. The percentage of nicotine in the last-named was only 1.50, while in the other two it was respectively 2.25 and 3.00.

WATKINS' NEW ERA FLUID SHEEP-DIP yielded 15 per cent. of phenols, an unusually large amount.

WALKER'S SHEEP-DIP gave 11.5 per cent. of phenols.

TAYLOR'S CONCENTRATED SHEEP-DIP yielded 4.5 per cent. of phenols, 37.5 per cent. of water, and 34.5 per cent. of coal-tar oils; the remainder of the dip consisting of soapy substances for the purpose of readily forming an emulsion with water.

BIGGS' POWDER SHEEP-DIP.—This was analysed, with the following percentage results:

Arsenious sulphide	...	...	...	4.90
Total arsenic (calculated as As ₂ O ₃)	...	...	20.50	"
Free sulphur	...	...	51.64	"
Total sulphur	...	...	55.64	"

LITTLE'S CATTLE-TICK DIP gave these figures:

Phenols	...	...	16.0 per cent.
Neutral coal-tar oils	...	52.5	"
Arsenic (calculated as As ₂ O ₃)	...	0.6	"

In addition the dip contained chiefly soaps to cause the foregoing substances to emulsify with water.

Business Changes.

MESSRS. BISHOP & Co., chemists, have relinquished the business at 197 Kingsland Road, N.E.

MESSRS. LEWIS & BURROWS, LTD., have recently opened premises at 213 High Street, Hounslow.

MR. W. P. SWIFT, pharmaceutical chemist, has relinquished the business at 33 Chatsworth Road, Lower Clapton, N.E.

MR. L. N. BURCH, chemist and druggist, of Manchester, has bought the business of Mr. W. H. Smith, chemist, at Chard, Somerset.

MR. W. GODFREY has acquired the business formerly carried on by Mr. T. Morrell, at 1 South Street, New North Road, Islington, N.

MR. T. RAWSON, late manager in Sheffield for Collins' Eucalypti Remedy Co., Ltd., has commenced business at 12 Netherthorpe Place, Sheffield, as a manufacturer of eucalyptus extract and eucalyptus and paregoric lozenges, under the style of Collins & Co.

Personalities.

MR. FREDERICK J. MILES, chemist and druggist, King's Lynn, has been placed on the Commission of the Peace.

MR. A. P. BARNARD (Barnard & Sons, chemists, Hackney Road, London, E., and elsewhere) has been appointed a J.P.

MR. CALEB KILNER, of Conisborough, Doncaster, and a director of Kilner Bros., Ltd., has been made a J.P. for the West Riding of Yorkshire.

MR. STEWART BOSWORTH, chemist and druggist, has passed the Intermediate examination in science of the London University with honours in chemistry. Mr. Bosworth passed the Minor examination in April 1905.

MR. IVOR C. LEWIS has sailed for Bombay, where he is due on September 1. This is Mr. Lewis's second visit to India and Burmah on behalf of Messrs. C. J. Hewlett & Son, export druggists, Charlotte Street, Great Eastern Street, London, E.C.

JOSEPH H. BRINDLEY, an apprentice with Mr. Hodgson Todd, chemist and druggist, Burslem, and a student at Burslem Wedgwood Institute of Science, has been awarded two first-class certificates in chemistry on the results of the Board of Education examinations.

MR. E. BRIDGES WALTON, J.P., pharmaceutical chemist, and ex-Mayor of Richmond, Yorks, is trying to interest lovers of Wordsworth in a project for raising a suitable memorial to the poet at Hart Leap Well, the scene of one of his best poems. Hart Leap Well is in Wensleydale, about four miles from Richmond.

THE PORTRAIT of Mr. David B. Dott which is given here is a more recent one than that given in THE CHEMIST AND DRUGGIST last week. Mr. Dott is well known on account of his contributions to practical pharmacy, which received recognition in his appointment as one of the B.P. Committee of Reference in Pharmacy. Mr. Dott is a partner in Messrs. J. F. Macfarlan & Co., Edinburgh and London. He takes an active part in pharmaceutical politics, and, as Executive, has done



Chairman of the North British Branch Executive, has done useful work in directing affairs north of the Tweed.

A SMALL GROUP OF FRIENDS assembled at Liverpool Street Station on August 10 to see Mr. T. H. W. Idris, M.P., off on his trip to India. Mr. Idris seems to have quite recovered from his accident. After the voyage he expects to have entirely regained his former vigour and to take up his duties in the House of Commons. The voyage is to Bombay and back, and will occupy about three months.

THE MOXON MEDAL of the Royal College of Physicians, which is given every third year, has been awarded to Dr. Jonathan Hutchinson, F.R.S. This medal was founded to commemorate the attainments in clinical medicine of Dr. Walter Moxon, a distinguished Irishman, who, on leaving school, became a clerk in a merchant's office in London. Moxon afterwards succeeded in passing the Matriculation examination of the University of London, and entered Guy's Hospital as a medical student in 1854. He eventually became, in 1873, Physician to Guy's Hospital and Lecturer on Medicine.

Birth.

LAWSON.—At 83 The Broadway, Hounslow, on August 13, the wife of Arthur Lawson, chemist and druggist, of a daughter.

Marriages.

FLAMANK—DUGMORE.—On August 12, at St. Mary's, Bedford, by the Rev. G. Pratt, Rector, Arthur Flamank, chemist and druggist, youngest son of Alderman G. J. Flamank, of Stafford, to Olive Amelia, third daughter of Mr. T. Dugmore, "Royston," Kempston, Bedford.

FOWLER—GAMBLE.—At St. Peter's, Streatham, on August 8, Edwin Samuel George Fowler, M.R.C.S.(Eng.), L.R.C.P.(Lond.), eldest son of Mr. Edwin Fowler, chemist and druggist, Hull, to Mabel Gompertz, second daughter of the late Alderman Richard Gamble, Grantham, and Mrs. Gamble, of Streatham, S.W.

SPURWAY—BARR.—At St. John's Episcopal Church, Edinburgh, on August 2, Marcus Spurway (of Spurway et Cie., essential-oil distillers, Cannes and London), Royal Greek Consul of Cannes, to Julia, youngest daughter of the late Mr. Thomas Barr, J.P., and of Mrs. Barr, Harburn, Midlothian.

Deaths.

COWPER.—At King Street, Berrie, on August 13, Mr. Colin Campbell Cowper, chemist and druggist, aged forty-five. Mr. Cowper had been in very indifferent health for the past six years, and had suffered a good deal lately. He served his apprenticeship with the late Mr. George Burrell, chemist, Montrose, and from there went to Edinburgh and Newport. Eventually he bought the business of Mr. Watt at Berrie, and carried it on successfully for fourteen years. He also held the post of registrar. Mr. Cowper was a quiet, unassuming man, punctual in business, and always ready to give good advice. He took no part in public affairs, but showed an active interest in religious matters, being Secretary of the Young Men's Christian Association. He leaves a widow and a young family of three, for whom much sympathy is felt.

CRAIGIE.—Suddenly, at 56 Lancaster Gate, London, W., on August 13, Mrs. Pearl Teresa Craigie. Under the pen-name of "John Oliver Hobbes" Mrs. Craigie had made for herself a reputation among women novelists. She was the daughter of Mr. John Morgan Richards, of Steephill Castle, Ventnor, and of 46 Holborn Viaduct, London, E.C.

GLEW.—At Pendleton, on August 10, Mr. William Glew, for many years in business as a chemist at Selby, where he was also postmaster for over a quarter of a century. Mr. Glew, who was eighty-one years of age, was a prominent Freemason.

MURISON.—At 126 Great Western Road, Aberdeen, on August 8, Barbara Murison, mother of John Murison, managing director of Parke's Drug-stores, Ltd., aged eighty-eight.

Recent Wills.

ANDERSON.—Mr. James Anderson, of 44 Fountainhall Road, Edinburgh, and late of Ormidale, East Suffolk Road, Edinburgh, manufacturing chemist, largely interested in Messrs. Harkness, Beaumont & Co., wholesale chemists and druggists, of Junction Bridge, Leith, managing director of Hailes Estate and Quarry Co., Ltd., who died on January 9 last, aged fifty-nine, left, in addition to real estate estimated as of a capital value of about 15,000*l.*, personal estate in the United Kingdom valued at 7,239*l.* 16s. 3*d.*, of which his share and interest in Messrs. Harkness, Beaumont & Co. has been valued for probate at 3,279*l.* 9s. 2*d.* Probate of his deed of trust, disposition, and settlement, dated July 29, 1904, has been granted to Mr. Peter Begg, of 5 Hermitage Drive, Edinburgh, secretary to Messrs. R. & R. Clark, Ltd.; Mr. James Murray, of 15 Denholm Green Terrace, Edinburgh; and Mr. Wm. Manuel, S.S.C., Edinburgh.

GARTON.—Estate of the gross value of 20,560*l.* 5s. 1*d.*, with net personality amounting to 6,641*l.* 10s. 3*d.*, has been left by Mr. Edward Hall Garton, of Lumsdale, Matlock, Derby, formerly in business as a bleacher, Chairman of the Bakewell Board of Guardians, who died on May 8 last.

PATERNOSTER.—Mr. W. Paternoster, of Clapham, chemist and druggist, who died on June 10, aged eighty-one, left estate of the value of 6,676*l.* To his wife, Mrs. Mary Ann Paternoster, he left the sum of one shilling, and desired that she should take no further benefit or interest under his will. The residue of his estate he gave in equal shares to his brother, Simon Paternoster, of Brixton, and his sister, Fanny M. Paternoster.

New Books.

These notes do not necessarily exclude subsequent reviews of the works. Any of these books printed in Great Britain can be supplied, at the published price, to readers of this journal on application (with remittance) to the Publisher of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

Bailey, L. H. *Plant-breeding*. Fourth edit. Cr. 8vo. 5s. net. (Macmillan.)

Bausor, H. W. *Elementary Science for the Preliminary Certificate Examination. Section A: Chemistry*. 7*×*5. Pp. 184. 2s. (W. B. Clive.)

Cassal, H. J. S. *Glues and Cements*. Cr. 8vo. Pp. 102. 1s. net. (Gill.)

Duckworth, L. *A Précis of the English Law Affecting Landlord and Tenant*. 2nd edit. 7*×*4*½*. Pp. 180. 2s. net. (Effingham Wilson, 54 Threadneedle Street, London, E.C.) [Since we reviewed this book in 1904 it has been somewhat altered, chiefly in the direction of incorporating the alterations due to legal decisions up to March 1906. The index is very well done, and makes the contents of the book readily available.]

Giffen, G. Haxton. *Students' Manual of Medical Jurisprudence and Public Health*. 7*½* *×* 4*¾*. Pp. 382. 5s. net. (Simpkin.)

Gregory, R. A., and Simmons, A. T. *Lessons in Science: Preliminary Course of Physics and Chemistry*. 7*×*4*½*. Pp. 408. 3s. 6d. (Macmillan.)

Grimsdale, H. B. *Chief Operations of Ophthalmic Surgery*. Cr. 8vo. Pp. 150. 5s. (E. H. Blakley.)

Hutchison, R. *Patent Foods and Patent Medicines*. 2nd edit. Cr. 8vo. Pp. 48. 1s. net. (J. Bale, S. & D.)

Mortimer, F. J. *Magnesium-light Photography*. Fully illus. 7*½* *×* 4*¾*. Pp. 88. 1s. 6d. net. (Dawbarn & W.)

Paul, G. P. *Nursing in the Acute Infectious Fevers*. Cr. 8vo. 4s. net. (Saunders.)

Smith, W. *Chemistry of Hat-manufacturing*. Lectures delivered before the Hat Manufacturers' Association. 7*¾* *×* 4*¾*. Pp. 132. 7s. 6d. net. (Scott, Greenwood.)

Wilcox, S. S. *Essentials of Genito-Urinary and Venereal Diseases*. Cr. 8vo. 4s. net. (Saunders.)

Year-book of Photography and Amateur's Guide. 7*½* *×* 4*¾*. Pp. 618. 1s. paper, 1s. 6d. cloth. ("Photographic News" Office.) [The leading feature of this year's issue is a series of articles on "Modern Printing-processes"—gum-bichromate by Robert Demachy, platinotype by Walter Benington, ferro-prussiate by G. E. Brown, P.O.P. by E. J. Wall, carbon-printing by H. W. Bennett, ozotype by T. Manly, oil-printing by G. E. H. Rawlins, bromide and gaslight printing by F. J. Mortimer. The Year-book also contains numerous formulæ for developers, intensifiers, reducers, and varnishes used in photography.]

Reviews.

Chemistry for Engineers and Manufacturers: A Practical Text-book. By BERTRAM BLOUNT and A. G. BLOXAM. Vol. II.: Manufacturing Processes. 8*½* *×* 5*¾*. Pp. 514. Illust. 2nd edition. 16s. Griffin & Co., Ltd., Exeter Street, Strand, W.C.

"THE sole object of the chapters comprising this volume is to give the reader a general view of the principles which underlie the several manufactures described." These opening words of the preface really express what the book does, with perhaps a little stress on the word general. The range of subjects is large, comprising as it does sulphuric-acid manufacture; alkali-making; destructive distillation; artificial-manure manufacture; petroleum; lime and cement; clay industries and glass; sugar and starch; brewing and distilling; oils, resins, and varnishes; soap and candles, textiles and bleaching; colouring matters, dyeing, and printing; paper and pasteboard; pigments and paints; manufacture of leather, glue, and size; explosives and matches; and a few other minor chemical manufactures. It is, of course, impossible to critically examine all these subjects, but opening the book at Sugar we are sorry to see cane-sugar processes so scantily treated, the old copper wall having the first place in the methods of concentration of cane juice, although it is, we believe, only employed in the most backward countries. Beet sugar is treated at greater length, and represents the present-day treatment of beet on the Continent. The sections dealing with sugar-refining do not refer to the importance attached nowadays to preliminary washing in centrifugals before "melting," and the decadent sugar-loaves take up space which might have been used in part to deal with granulated sugar. We have only taken this instance to show that there are weak points in the book; but perhaps it is unreasonable to expect a book covering such a wide field to be quite even in quality throughout. With this reservation the book is one that can be recommended to those who desire information on the principles that govern chemical industries.

Medical and Pharmaceutical Latin for Students of Pharmacy and Medicine. By REGINALD R. BENNETT, pharmaceutical chemist, etc. 6s. London, 1906: J. & A. Churchill.

THIS book is intended to take the place of Pereira's "Selecta è Prescriptis," which, after having served two generations of students, is now so obsolete that it cannot apparently be brought up to date. Mr. Bennett's first fifty pages contain a résumé of Latin grammar which may be as much as the Minor student requires, but will be comparatively useless to Preliminary students, to whom a pharmaceutical Latin grammar is of great value. It is to be regretted that the author has not shown greater care in compiling this part, and that he uses such loose English as "the nominative and accusative cases of all second-declension neuter nouns are alike in singular and plural," and "all neuter nouns of the third declension are the same in the nominative and accusative in both numbers."

The first of these statements is scarcely redeemed by the clause, "and in the plural they always end in -ā." Mr. Bennett appears to have modelled this part of the book on Allen's Latin grammar, which he has adopted even to the extent of following the system of capital letters. Over and over again whole sentences occur in which every noun has a capital letter! Twelve pages are devoted to syntactical rules and the analysis of prescriptions; and here, again, a junior student will be entirely at sea. A large number of abbreviated Latin prescriptions are given—fifty-five pages in all—with nearly double the number of pages of unabridged prescriptions and translations. It would have been better for the student if his requirements had been covered in fifty pages rather than 150. Two very good vocabularies of 170 pages and a few pages of German and French prescriptions make up the rest of the book. Mr. Bennett has had a splendid opportunity of placing the art of prescription-writing on a more classical basis than it is at present, but what he has done is simply to perpetuate the "dog Latin" which has always been the standing reproach against medical men. In his Preface he refers to the early Pharmacopœias which "purported to be written in the Latin language," and this opinion leads to an expectancy which is scarcely realised.

Here and There.

A Cure for Blighted Affection.

Louis Quinet and Renée Welly, linked by the bonds of a common affection, were threatened with separation by a stern parent, who sought to bestow Renée's hand elsewhere. But her heart was true to Louis, and the young couple decided to die together. Louis had a friend, a Parisian chemist's assistant, and asked his aid. The budding pharmacist heard his tale with sympathy, and furnished a vial, which he prudently labelled "Violent poison" to cover his employer's responsibility. Renée and Louis took a room at an hotel. They left on the table letters in which, more in sorrow than in anger, they explained their dread dilemma, then swallowed the deadly drug—terribly nauseous they found poison was—and lay down to take their last sleep. But intense pain wrung from them piercing cries, and the hotel waiter, who suspected foul play, ran to the nearest police-station for the commissary. "But where are the young people?" exclaimed the official, as he breathlessly broke into—an empty room. The graceless pharmacist's assistant had poured a powerful aperient into the vial with the "violent" label, and Renée and Louis are now a wiser and sadder pair of lovers.

The History of Pharmacy at Avignon, by M. Henri Granel, gives some interesting data on the early days of "apothecairerie" in Provence. Till the middle of the thirteenth century the doctors, clergy, convents, and grocers delivered medicaments; and the apothecaries are simple "scale dealers" (*marchands à la balance*). But in 1242 municipal statutes were drawn up to regulate the various corporations, and new rules from time to time were added, duly published by trumpet blast—an old style of making public announcements, which is still kept up in the accession of an English sovereign to the throne. The pharmacist in those days was a man of many parts. In one document the same individual is severally alluded to as apothecarii, piperarii, speciarii, and aromatarii. He thus dealt in drugs, spices, grocery, and perfumes. It is also interesting to note that apprentices appear to have served but three years, and that a system of pharmacy inspection existed. In 1262 the Corporation of the Aumône de l'Epicerie (the "Grocers' Mutual") was created, and in 1372 they purchased a chapel. Our ancestors often held guild meetings in such portions of a sacred edifice, for in these days few public affairs were carried out without some religious rites. In the fourteenth century occurred the event which renders Avignon of such supreme historical interest—its selection by the Popes as a residence. A largo number of Italian pharmacists accompanied them, mostly from Florence and Lucca, possibly even in those times the seats of orris cultivation and olive-oil manufacture. These foreigners first of all had a sort of minor guild of their own, the "Aumône de Notre Dame de la Major"; but later on an *entente cordiale* was arranged, and French and Italians fraternised in the common Confraternity of St. Mary Magdalene. The Magdalene was a favourite patron saint with apothecaries, the allusion being, of course, to the very precious ointment with which she anointed Christ. The Popes had a pharmacist of their own, who lived in the huge Papal Château which is still the leading feature of the capital of Provence. In 1570 the sum paid by each newcomer opening shop—"the Minor examination fee," as we should call it nowadays—was five florins; but we find even in these early days a tendency to increase these sums, for eight years later it was decided that although the aromatarii (who sold simples only) should be admitted on payment of six golden crowns, the apothecarii (the fully qualified men who compounded medicines) should be required to pay ten.

Nantes

(according to Murray's "Guide") is one of the handsomest towns of France. It is certainly one of the great centres of drug-business for the region, and a good deal of enterprise is shown in pushing special lines by certain pharmacists. Extracts for making liqueurs are shown in several pharmacies; I noticed thirty or forty varieties at one place (including the Elixir of Garus, dear to Tartarian and Bezuquet), though I did not admire the Indian-ink-like style of the 2d. and 4d. vials in which they were put up. The dentifrices put up by the Bon-Secours Convent, handy tubes of tooth-paste (such as usually bear German names), and so on, were also largely shown. Audineau's pharmacy in the Basse-Grande Rue (Lower High Street, as an Irishman would term it) specialises neat little cases with a dozen ampoules for hypodermic injections. At Caell's a quinine "without bitter taste, for children," is well put forward; Cesbron, in the rue Crebillon, puts up his eau de Cologne, dentifrice-water, etc.; and Maussion, who keeps a big general pharmacy (bandages, chemicals, etc.) in the same street, has a special stopper and show-champagne thus put up, half-a-dozen vials each

containing a glass of "fizz." The curious old drug-shops still flourish in the rue d'Orléans, with their barrels on the street-front, etc., and apparently do good business, though competition is not lacking, the three of them—Félix Martin's, Deluen's, and the "Iron Mortar," kept by G. Trolley de Longchamps—being within twenty or thirty yards of each other, not to mention a huge corner grocery which carries a heavy line of chemicals and raw drugs, etc. The night service in Nantes is very carefully organised. I noticed a card in a pharmacy window in the rue Voltaie bearing the names of the fifty-four *officines* of the town, divided into columns (days of the week) and lines (districts of the city). The dates of the three or four nights per month on which the particular pharmacy was open were indicated in the margin. I was, unfortunately, too pressed for time to call and chaffer over the matter. A "pharmacie principale" is to be opened in the rue du Calvaire, the best business street in Nantes, next month or so. The premises are of the same nature as the Tours "pharmacie principale" already noticed, and I should imagine it was "run" by the same company. Mutual benefit societies naturally flourish in a town having a largo labouring population; the *Pharmacie du Pilori* displayed a list of some fifty of these bodies which it supplied (presumably at a minimum tariff).

In the Sunny South.

Toulouse is one of the pleasantest towns of France, and the *allées*, or wide tree-planted avenues, where the Mixed Faculties of Medicine and Pharmacy is situated, is one of the pleasantest parts of the city. The section of pharmacy occupies a building in the purest Greek style of architecture which once housed the Preparatory School of Pharmacy and Medicine, while the new Mixed Faculty buildings (inaugurated in 1891) are mostly occupied by the medicos. The pharmaceutical students have a roomy lecture-hall of their own and sufficient laboratories. There are usually about 175 on the books—i.e., less than at Lyons or Bordeaux, but more than at Lille or Nancy—for Toulouse is a cheap as well as a pleasant place. "One can live there like a gentleman on 60l. a year," a fellow-traveller assured me. Your modest pharmacy student can find a room at 12s. 6d. to 20s. a month, and—if he "knows the ropes"—will persuade his landlady to keep it for him rent-free during the long vacation. Food is always cheap (outside the Riviera), and usually good in Southern France. At Toulouse certain restaurants (whose *clientèle* is almost exclusively composed of students) cater for two "square" meals a day at a monthly charge of a little over 2l. Needless to add (I ride through the vineyards as I write) that wine is included. The special reductions accorded to students give them a pit seat for a franc at the Opéra, one of the best of French provincial theatres; at least, so the Toulousains assure me. The Hôtel Dieu (a huge old building by the waterside) and other hospitals follow the Parisian system of admitting students as pharmacy internes by examination, and the ambitious and successful student may thus be "passing rich on 20l. a year" in the house (if lodged outside he will earn from 28l. to 36l. per annum). Or he may possibly even become a preparator (20l. per annum) on the faculty staff.

A Pharmaceutical Operette.

M. Lazare Verneau, honorary President of the Côte d'Or Pharmaceutical Syndicate, celebrated his professional jubilee not long since. His *frères* presented him with a commemorative plaque in honour of the event, and a local *chansonnier*, who conceals his identity under the pseudonym of Bétrol, but whose literary style betrays his close connection with pharmacy, sang and recited a pharmaceutical operette. In this clever and entertaining pot-pourri the various bottles in M. Verneau's pharmacy commented in turn on his jubilee, alcohol singing his couplets to the popular tune of "Viens Pouppoule," while Aqua Dest. replied with an air of the "Dragons de Villars." The suppository strophes went merrily to the strains of the "Mousquetaires au Couvent," and Ergot of Rye's antistrophe was founded on the ever-popular chords of Gounod's "Faust." But the gem of the collection was the Song of Quinine, to the air of the "Cloches de Corneville":

Ah ! Scarlatine,	Calisaya,
Jeune coquine,	Ledgeriana,
Par ma quinine,	Succirubra
Rien à gratter.	De chaque espèce
J'te fais la nique,	On en prend une
France ou Mexique,	Ou blonde ou brune,
Pouvoir magique	Cela dépend d'un peu d'adresse !
Faut t'incliner.	

ON AN AVERAGE, only 60 to 70 tons of cinchona-bark is shipped yearly from Ecuador, as compared with 500 to 800 tons in previous years.

DRUGS, MEDICINES, AND CHEMICALS valued at 408,000l. were imported into New Zealand during 1905, compared with 449,000l. in the previous year.

Photographic Notes.

By PHARMACEUTICAL CAMERIST.

PRESERVATIVE AND ACCELERATOR.

Attention is drawn in the "British Journal of Photography" to the fact that when sodium sulphite is added to the alkaline accelerator of developing-solutions, it undergoes in course of time some chemical change which renders it useless as a preservative. Plate-makers do not appear to have noticed this, as in most formulæ a mixture of sulphite and carbonate or sulphite and hydrate is prescribed. The result is that a developer made up in this manner soon stains badly. The matter deserves attention, especially by those chemists who make any quantity of developer for sale. I always avoid this trouble by using potassium metasulphite as a preservative, instead of sodium sulphite. Potassium metasulphite is a much more energetic preservative than sulphite, although owing to its acid nature it must not be added to the alkaline solution. I append the formula which I use, for what it may be worth to other pharmaceutical camerists :

No. 1.

Potassium metasulphite	...	120 grains
Potassium bromide	...	20 grains
Pyrogallic acid	...	80 grains
Water to	...	20 oz.

Dissolve in the order given.

No. 2.

Sodium carbonate (pure crystals)	900 grains
Water to	20 oz.

For use take equal parts of No. 1 and No. 2.

There is a further advantage in using potassium metasulphite as a preventive of oxidation, and that is that when developing with pyro-ammonia the troublesome "sulphite scum" does not present itself. When making the pyro-ammonia developer with metasulphite, however, rather more ammonia must be used in order to counteract acidity, and for this purpose every grain of metasulphite in the developer will require about one minim of ammonia 880°.

URANIUM TONING.

Mr. C. Welborne Piper, in a contribution to the "British Photographic Journal" on toning lantern-slides with uranium, gives the following method for obtaining a pure sepia colour free from red. The prints are first toned in the ordinary uranium toning-bath to a deep-red colour—*id est*, toned as far as possible. They are then washed and placed in a bath of weak ammonia until the tone entirely disappears, after which they are toned in a bath containing only one part of uranium nitrate and one part ferricyanide in 3,000 parts of water. This weak bath soon gets exhausted, and must be replaced by a fresh one of the same strength, and the process repeated until the desired sepia tone is produced.

GRANULARITY.

Slow drying in a hot climate is, according to Mr. Bartlett, a frequent cause of granular deposit in negatives. In the "Journal of the Royal Photographic Society" he gives the following method of preventing this trouble : Immediately after development the plate should be flooded with ice-cold water and then placed in a weak solution of formalin (3*j.* to 3*x.* water). After rocking for a minute or two the plate is fixed. When fixed it is given a second bath of formalin and washed for twenty minutes in running water. It is then given a third bath of formalin, and without further washing is dried over a flame or by means of an electric fan. This process should be of interest to those readers of THE CHEMIST AND DRUGGIST in the lands beyond the seas.

THE "British Medical Journal" has been asked whether it is contrary to any written or unwritten law, or in any way *infra dig.*, for a medical man to purchase the goodwill of a chemist's shop in the town in which he practises. The shop would be managed entirely by a duly qualified manager, who would be paid a salary or percentage out of the profits; the only connection the medical man would have with the business would be to pocket the profits. The reply was: "On general grounds it may be said that it is not consonant with the claims of the medical profession for its members to enter into trade competition with pharmaceutical chemists."

Forgotten Proprietaries.

THE number of proprietary medicines mentioned in the schedule of the Medicine Stamp Act, 1812, and which are still selling is very few, but a correspondent sends us an old newspaper referring to some medicines of a proprietary character which were on sale in 1724, and as these are not mentioned in the schedule of the 1812, they were probably then "forgotten proprietaries." The newspaper in which these announcements appear is the "Whitehall Evening-Post" "from Saturday, August 22, to Tuesday, August 25, 1724." It is a four-page journal, the pages being of approximately the same size as those of THE CHEMIST AND DRUGGIST. The first two pages are nearly taken up with news, foreign and home, the last two pages being each half-filled with advertisements of books and proprietary articles. The newspaper stamp, of $\frac{1}{2}d.$ value, is imprinted on the front page, but there is no indication of the price at which the paper was sold. We reproduce the wording of two of the toilet articles advertised, and also of the "Great Restorative." The titles of the articles do not strike the modern pharmacist as at all distinctive :

The Transparent RUBICUND LIQUID,

WHICH gives such a beautiful florid Colour to the Cheeks of those who are pale or white, as not to be exceeded by the finest natural Complexion in the World, nor to be distinguish'd from it, or perceived to be Artificial by the most intimate Friend, it being nothing of Paint, or subject like that to be rub'd off, neither is it daubing to use, or in any respect hurtful, but as harmless as fair Water, and good in many Cases to be taken inwardly : It has a pleasant Scent, and is to be used without any manner of Trouble; and, by the most agreeable blushing Colour it gives (which may be heighten'd or lower'd at pleasure) it makes those who are wan or pale, thro' Weakness, Indisposition, or even Age itself, appear charmingly fair and most exquisitely beautiful; for it seems to add Spirit and Life to the Muscles of the Face, that before look'd faint and languid, giving a surprizing bright Air to every Feature, and an inexpressible youthful Bloom to the whole Countenance. Is to be had only by the Author's Appointment, of the Gentlewoman at the two blue *Posts* in Haydon-Yard in the Minories, at 3*s.* 6*d.* a Bottle (containing enough to last a long Time) with Directions.

The pleasant Odoriferous TINCTURE, for the Breath, Teeth and Gums, a few Drops of which instantly makes the most offensive Breath smell incomparably fine and charming, and in a very short time perfectly cures, so that a disagreeable Breath will never return; it certainly makes the blackest and most foul Teeth extremely White, clean and beautiful at once using, infallibly preserves them from decaying, and those a little decay'd from growing worse, absolutely cures the Scurvy in the Gums, tho' never so inveterate, causing the Flesh to grow up to the Teeth again, when almost eaten quite away, and infallibly fastens loose Teeth to Admiration. In a Word, for most delicately perfuming and quickly curing an ill scented Breath, for immediately making the blackest Teeth most excellently White, certainly fastening them when loose, effectually preserving them from rotting or decaying, and assuredly curing the Scurvy in the Gums, it has not its equal in the World. Is now sold only at Mr. Ratford's Toy-Shop, at the Rose and Crown against St. Clement's Church-yard in the Strand, near Arundel-street Price 3*s.* 6*d.* a Bottle, with Directions.

The Great RESTORATIVE,

IN all Hysterick Diseases, whether Hypochondriach Melancholy in Men, or Vapours in Women, however circumstanc'd, or to what Degree soever advanced, or of ever so long standing, are speedily and infallibly cured, so as never to return again; by a pleasant Compound Medicament, chymically prepared of the choicest Anti-Hystericks in the whole Art of Chymistry. This Medicine having cur'd Thousands of Men and Women of Melancholy and Vapours, may be depended on for a perfect Cure; it strikes immediately at the first Cause of this Distemper, and entirely destroys its Root and Branch; rectifying that vitiated Forment in the Stomach, and thereby cures Indigestion, purifies the Blood and Spirits, strengthens the Brain and Nerves, clears the whole Frame, stops vomiting, clears the Head from confused Thoughts, removes Fears, Sadness, disturb'd sleep, Twitchings of the Arms or Legs, cures Palpitation or Trembling of the Heart; and indoed all other the many and various Symptoms that attend this grievous Distemper; for take away the Cause and the Effect will cease. Sold for 4*s.* 6*d.* the Bottle, at the Golden Ball the Corner House of Bear Alley by Fleet Ditch, near Holborn Bridge.

Trade Report.

NOTICE TO BUYERS.—The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

42 Cannon Street, London, E.C., August 16.

WITH the full resumption of the auctions in Mincing Lane this week the produce-markets have shown more activity, but business is far from brisk, as is not unusual in August. Several important chemicals, such as citric acid, permanganate of potash, hyposulphite of soda, oxalic acid, acetic acid, and refined camphor, are exceedingly firm, and in some instances there is a spot scarcity. Quicksilver in second hands is firmer, and ordinary brands of copper sulphate are easier. Quinine continues lifeless. Among drugs and essential oils cinchona sold at unaltered rates at auction. Caraway, cumin, and fenugreek have all advanced. Menthol and peppermint oils are steady, but hang fire speculatively. French lavender oil is dearer in some quarters, and lemon oil is in good demand at the higher range of prices. The following are the principal alterations of the week :

Higher	Firmer	Easier	Lower
Benzols	Cassia oil	Copper sulphate	Coca-leaves
Caraway-seed	Citric acid		Wax, bees'
Cumin-seed	Cocoa-butter	Senega	(Jam.)
Elemi	Fenugreek-seed	Turpentine	
Lavender oil (French)	Gamboge		
Sarsaparilla (grey)	Quicksilver (seconds)		

Cablegrams.

SMYRNA, August 15 :—As a result of further buying on behalf of interior speculators and American houses, the opium-market has advanced 2d. per lb.

SMYRNA, August 16 :—Further important sales of opium have been made, and the market has advanced a further 3d. per lb.

HAMBURG, August 16 :—Japanese peppermint oil is easier at 13½m. per kilo., and an easier feeling also prevails in menthol, which is now offered at 20m. per kilo. Refined camphor is firm.

NEW YORK, August 16 :—The drug-market is quiet. Opium is irregular and easier at \$3 per lb. for druggists', in case lots. Pure yellow beeswax is firm at 32c. per lb. Cascara sagrada is easy at 6c. Menthol is weak at \$2.85 per lb. Jalap has advanced to 14c. per lb, and is firm. Senega is weak at 54c. per lb., and Russian ergot is firm at 26c. per lb.

Arrivals.

Among the arrivals of drugs, chemicals, etc., at the principal ports of the United Kingdom from August 9 to 15, inclusive, were the following: *Acetanilide*, 10; *acetic acid* (@ Rotterdam), 51; *albumen*, (@ Alexandretta) 13, (@ Oporto) 4cs., (@ Marseilles) 16, (@ Havre) 5, (@ Hamburg) 60; *aloes*, (@ Mossel Bay) 103, (@ Algoa Bay) 9; *antimony*, (@ Hamburg) 2282 bgs., (@ Havre) 15; *arsenic* (@ Oporto), 72; *bleaching-powder* (@ Cologne), 2355; *bromine* (@ Hamburg), 184cs.; *camphor* (@ Hamburg), 50 cs.; *cascara sagrada* (@ New York), 431 sks.; *cardamoms* (@ Colombo), 25; *castor oil*, (@ Genoa) 130 cs., (@ Leghorn) 50 cs.; *chamomiles* (@ Ghent), 50; *cinchona*, (@ Colombo) 27 bls. *in tr.*, (@ Tunicorin) 57, (@ Amsterdam) 86, (@ Mollendo) 114; *citric acid*, (@ Marseilles) 27, (@ Hamburg) 12, (@ Bordeaux) 25; *cochineal* (@ Pisco), 37; *cod-liver oil* (@ Bergen), 80; *cream of tartar* (@ Bordeaux), 85; *cuttlebone* (@ Bombay), 25; *ergot* (@ St. Petersburg), 84; *essential oils* (@ New York), 57 cs.; *galls* (@

Baghdad), 266; *gentian* 15, (@ Bilbao) 27; *geranium oil* (@ Algiers), 3 cs.; *ginger* (@ W.C. Africa), 57; *gum arabic* (@ Bombay), 80; *gum*, unenumerated, (@ Baghdad) 80 pkgs., (@ Bombay) 331; *honey*, (@ Dieppe) 30, (@ Sydney) 12, (@ Huasco) 84, (@ Jamaica) 18; *jalap* (@ Hamburg), 7; *lactic acid* (@ Boston), 25; *lemon oil* (@ Hamburg), 10; *lime juice* (@ Dominica), 78; *lime oil* (@ Dominica), 5; *mastic* (@ Alexandria), 40; *nux vomica* (@ Bombay), 30; *olibanum* (@ Bombay), 47; *opium*, (@ Smyrna) 129 cs., and 23 cs. *in tr.*, (@ Constantinople) 92; *oxalic acid* (@ Fredrikstad), 8; *peppermint oil* (@ Hamburg), 20 cs.; *pot. chlor.* (@ Gothenburg), 20; *pot. iodid.* (@ Hamburg) 10 cs.; *quillaia* (@ Talcahuano), 221; *roots, etc.*, (@ Hamburg) 25, (@ New York) 101; *saccharin* (@ Antwerp), 2 cs.; *sarsaparilla* (*via Havre*), 43; *spermaceti* (@ New York), 45; *senna* (@ Tunicorin), 155; *tamarinds* (@ Leghorn), 22; *tartar* (@ Barcelona), 44; *tartar emetic*, 21; *tartaric acid*, (@ Rotterdam) 8, (@ Bordeaux) 20; *turmeric* (@ Cochin), 60; *wax, bees*, (@ Hamburg) 30 bgs. 10 cs., (@ Boston) 18 cs., (@ Marseilles) 12, (@ Smyrna) 11, (@ Bombay) 38, (@ Mossel Bay) 5, (@ W.C. Africa) 27; *wax, carnauba* (@ Hamburg), 15; *wax, Japanese* (@ Kobe), 20; *wood oil* (@ Shanghai), 52.

Liverpool Drug-market.

Liverpool, August 15.

FENUGREEK SEED is again dearer at 10l. 2s. 6d. per ton, less 1½ per cent.

CASTOR OIL.—Good seconds Calcutta continues to meet with a fair demand, and quotations are steady at 3½d. to 3¾d. per lb. on the spot, and for shipment 3½d. is now quoted. First-pressure French has advanced to 3½d. to 3¾d., but very little offering. For shipment 29l. to 30l. per ton, f.o.b. Marseilles, is now wanted.

TURPENTINE.—Market closes steady at from 44s. 9d. to 45s. per cwt.

BEESWAX.—Small sales of Chilian have been made at 87. 5s.

ARSENIC is rather firmer at 22l. per ton, but very little offering.

ANISEED.—Russian is firmly held at 26l. to 26l. 10s. per ton.

CARAWAY SEED.—For shipment extreme prices are asked. For Dutch of 1906 crop 27s. 6d., f.o.b., has been paid, and as high as 29s., f.o.b., is asked in some directions for 1904 crop.

QUILLATA remains firm at 18l. per ton.

CHAMOMILES.—New crop only offers sparingly, extreme prices being asked for first gatherings—viz., 90s. per cwt., f.o.b.

German Drug-market.

Hamburg, August 14.

AGAR-AGAR.—Some lots have arrived, and to-day prime is a little easier at 300m. per 100 kilos.

ANTIMONY is firm at 140m. per 100 kilos.

CAMPHOR (Refined) is firm at 875m. to 880m. per 100 kilos., and the same price is asked for slabs of 2½ lb.

CANTHARIDES of new crop are quoted 9m. per kilo. for shipment.

CITRIC ACID is very firm, with buyers at 330m.

CUMIN-SEED is very firm, Malta being held at 70m. per 100 kilos.

ERGOT is firm at 240m. per 100 kilos. A parcel of inferior quality sold by auction at 225m. per 100 kilos.

FENUGREEK for shipment is quoted 28m. per 100 kilos., and Indian can be bought at 20m.

FEPCACUANHA is a little easier; Cartagena is quoted 15½m. and Rio 16½m. per kilo.

JAPANESE WAX is very firm at 114m. per 100 kilos.

MENTHOL on the spot is quoted 20½m. per kilo.

GOLDEN SEAL is quiet at 14m. per kilo.

SENEGA is quieter, forward shipment offering at 510m. per 100 kilos., being easier.

OILS (FIXED): Castor is firmer at 57½m. per 100 kilos. for first pressing in barrels; cod-liver is quoted 47½m. to 70m. per barrel; Chinese wood, in barrels on the spot, is 60m. to 60½m. per 100 kilos.; rape is firm at 59m. per 100 kilos., duty free.

OILS (ESSENTIAL): Camphor is quoted 170m. per 100 kilos. for white; caraway is firm (0.910) at 9.10m. per kilo; peppermint, H.G.H., is firm at 14½m. per lb., and Japanese at 13½m. per kilo.; cassia is 7.60m. per kilo.

ACID, CITRIC.—A further slight advance has taken place owing to the spot scarcity. Foreign is now quoted 1s. 7½d., and English make is 1s. 8d.

ACID, TARTARIC.—Slow of sale and unchanged, at 11½d. for English and 10½d. for foreign.

ANISEED.—The price of 26 bags of Russian offered in auction was 26s.

ARROWROOT.—Fair sales of good manufacturing St. Vincent have been made at 15d. per lb.

BENZOLS are dearer, at 11d. to 11½d. per gal. for 50-per-cent. for prompt delivery, and 9½d. for 90-per-cent.

BROMIDES.—A New York contemporary states that "an alleged exchange of views by representatives of leading American interests gives colour to the theory that the conditions brought about by the German-American bromide-war are about to undergo a change. It is certain that American makers are not over-anxious for contracts in the present market." On this side it is said that the American makers are considerably behind with their deliveries, and an instance of "default" is even mentioned. Holders of American on the spot who were enabled to get in cheaply when the war was on are now inclined to hold for higher prices.

CARAWAY-SEED is considerably dearer owing to shortness of crop in Holland. The price of new seed, which is of poor quality, is 27s. 6d. per cwt. f.o.b. Good old seed on the spot is quoted 29s., and higher prices are expected.

CHAMOMILES remain firm. First pickings of the new crop are offered at from 90s., c.i.f., and upwards, according to quality. An arrival of 54 bales has taken place from Ghent this week.

CINCHONA.—At auction on Tuesday the supply offered was extremely small, amounting to 384 packages only, which practically all sold at the unchanged unit of 1 $\frac{3}{4}$ d. per lb.

The following table shows the quantity of bark offered and sold:

	Packages Offered	Packages Sold
Java cinchona	...	273 of which 273
East Indian cinchona	...	111 "
	384	380

The following were the approximate quantities of bark purchased by the various buyers:

	Lbs.
Messrs. Howards & Sons, Ltd.	31,070
Imperial Quinine-factory	30,742
The Brunswick Factory	13,438
The Mannheim Factory	4,809
Total quantity sold	80,050
Bought in	1,680
Total quantity offered	81,730

The prices paid for sound bark were as follows: **EAST INDIAN.**—*Ledgeriana*, original stem chips, 3 $\frac{1}{2}$ d.; *Succirubra*, ordinary, stem chips and shavings, 1 $\frac{3}{4}$ d.; small, 1 $\frac{1}{2}$ d. **JAVA.**—*Ledgeriana*, stem chips, 6d.; ordinary small, 2d. to 2 $\frac{1}{2}$ d.; branch chips, 4 $\frac{1}{2}$ d.; root, 6d. per lb.; hybrid stem chips, 4d. to 6d.; branch chips, 2 $\frac{1}{2}$ d. to 3 $\frac{1}{2}$ d.; root, 3 $\frac{1}{2}$ d. to 4 $\frac{1}{2}$ d. per lb.

The 11,067 bales and 588 cases of Java bark to be offered at Amsterdam on August 23 weigh 1,055,976 kilos., and contain the equivalent of 59,757 kilos. sulphate of quinine (slightly over two million ounces). The manufacturing-bark contains an average of 6 per cent. quinine sulphate, the average for the six auctions held this year being from 5.49 to 5.99 per cent. The 16 packages Java coca-leaves weigh 830 kilos.

COPPER SULPHATE.—Ordinary brands on the spot are about 5s. per ton cheaper, offering at 24l. 5s.; but Liverpool is unaltered at 24l. 15s., and for January-April 25l. 7s. 6d. is quoted.

CORIANDER-SEED is firm, with sales of new crop Morocco at 15s. 6d. per cwt. on the spot; and as the quotation to arrive is about 18s., c.i.f. terms, an advance in price here will probably take place.

CREAM OF TARTAR.—Steady and in fair demand, 99 to 100 per cent. powder offering at 78s., 98-per-cent. at 77s., and 95-per-cent. at 75s. per cwt.

CUMIN-SEED is dearer, Morocco having been sold at 35s. per cwt.

FENUGREEK-SEED is now held for 15s. per cwt. for Morocco on the spot.

OIL, CASSIA.—Holders are asking an advance of 2d. per lb. for the higher test—viz., 3s. 9d. for 80 to 85 per cent. c.a.

OIL, CASTOR. is very firm. Hull make of first pressing for prompt and to December delivery is quoted 29l. per ton, and second pressing for October to December delivery 28l., barrels free ex wharf London.

OIL, COD-LIVER.—The situation in Norway is quite unaltered, finest non-congealing Lofoten cod-liver oil being still quoted at 65s. per barrel, f.o.b. Bergen, with only a very limited number of sales. The exports from Bergen up to

date amount to 8,395 barrels, against 6,747 barrels at the same date of last year.

OIL, LAVENDER.—It is said that owing to drought the lavender-crop in the South of France will be extremely small, and it is quite anticipated that an advance of fully 2s. per lb. will take place. Indeed, higher prices than those ruling last year have already been paid.

OIL, TURPENTINE.—The advance of last week has given way to an easier feeling day by day, the spot price of American touching 44s. 3d. per cwt.

OPIUM.—Steady on the spot, but with little business. It is said the quality of the Turkey crop this year shows a great improvement as regards the yield of morphine. Persian is quoted at from 11s. 6d. per lb., but there are no buyers.

SMYRNA, August 3.—The sales this week amount to 75 cases, as follows: Seventeen cases new manufacturing for the Continent, 33 cases Karahissar for Japan, and 25 cases manufacturing for England. Large buyers retiring from the market last week brought about a decline of fully 4d. per lb., but as soon as heavy purchases are resumed again, it is expected that the former strong position will be regained. The arrivals to date amount now to 1,619 cases, against 393 at the same period last year.

SMYRNA, August 4.—With the withdrawal of the buyers on behalf of the Japanese, who appear to have purchased all their requirements, and with important arrivals in Smyrna during the past ten days, the market this week has been easier, and in consequence concessions have been made to buyers. Altogether 75 cases have been sold, including 9 cases old choice Karahissar t.q. at the equivalent of 8s. 3d., 2 cases new (inspected) Yerli at 9s. 3d., 21 cases new Yerli t.q. at from 8s. 3d. to 7s. 11d., 7 cases new choice Karahissar t.q. at from 8s. 3d. to 7s. 10d., 17 cases new Karahissar t.q. at from 7s. 9d. to 7s. 5d., and 19 cases new current t.q. at from 7s. 6d. to 7s. 3d. per lb., c.i.f. European ports. Market closes quiet with sellers, and the arrivals of opium in Smyrna since the beginning of the new season now amount to 1,664 cases, as compared with 393 cases at the corresponding period of last year. [Since the foregoing letter-advice were received, an important advance has taken place in Smyrna.—ED.]

POTASH PERMANGANATE has been in good demand, and stocks on the spot have again been considerably reduced; 39s. will buy small crystals.

QUICKSILVER.—There has been no alteration in the official price, which remains at 7l. per bottle. In second-hands there has been a fair demand at hardening prices: 6l. 19s. was quoted early in the week, but to-day 6l. 19s. 6d. is wanted for small lots.

QUININE.—A few small sales of German sulphate were made last week at 7d. per oz. on the part of one or two holders who wished to clear their stock, but the lowest price at which B. & S. and/or Brunswick is now quoted is 7 $\frac{1}{2}$ d., and 1d. below has been refused, so that although there is no actual business the feeling is perhaps steadier. In the drug-auction 1,000 oz. B. & S. brand German sulphate sold at 7d. per oz.

SENEGA is quoted 2s. 2d. per lb., c.i.f., being easier.

SHELLAC.—Quiet but firm, with small sales on the spot, TN orange selling on a basis of 215s. to 217s. per cwt. for fair to good. Futures have also been quiet, with small sales of December delivery at 214s. to 215s.

SPICES.—At auction Jamaica *Ginger* sold at barely steady prices, including 15 barrels good middling to fair bright at from 6s., to 70s.; about 600 packages were offered. Unsorted native cut Cochin, in cases, was bought in at 50s., and bold brown Calicut at 37s. 6d. *Pepper* sold slowly at steady prices, comprising fair Wynnaad at 5 $\frac{1}{2}$ d. and good at 5 $\frac{1}{4}$ d.; Alleppy was bought at 5 $\frac{1}{2}$ d. Privately fair Singapore is quoted 5 $\frac{1}{4}$ d., spot. Of *White pepper*, sales of Ceylon in auction were made at 6 $\frac{1}{2}$ d., mixed blacks at 6 $\frac{1}{2}$ d., and small shrivelled at 5 $\frac{1}{2}$ d. Privately fair Singapore is quoted 7d. and fair Penang 6 $\frac{1}{2}$ d.; for August-October shipment 7d., landed terms, and 6 $\frac{1}{2}$ d. c.i.f. Continent, has been paid. A large quantity of *Pimento* offered at auction was bought in at 3 $\frac{1}{2}$ d. per lb. *Nutmegs* and *Mace* were steady. *Chillies* were quiet; 75 bags Japanese offered and sold without reserve at from 18s. 6d. to 22s., good 32s. to 32s. 6d., and fine at 47s. per cwt. Of 168 packages Zanzibar offered 38 sold at 17s., subject, for fair stalky; Mombasa were offered and bought in at 25s., while a few Nyasaland sold at 37s. for good bright, and red and yellowish perished at 20s. Large red picked Nyasaland *Capiscums* sold at 46s., and

yellow cherries at 32s. Cinnamon chips sold at 2½d. per lb. for rather coarse. Fair Zanzibar Cloves were bought in at 7½d., and Penang, in cases, at 1s. 4d. Privately spot sales of common mixed Zanzibar have been made at 6½d. At the close of last week about two thousand bales Zanzibar sold for shipment at 6½d., c.i.f., for October-December and November-January shipment, and at 7d. for October-December delivery. Subsequently further sales of the latter position were made at 7d. and January-March at 6½d., while for arrival January-March shipment has changed hands at 6½d. to 6½d. per lb.

STARCH POWDER.—American is firm at 10s. 6d. per cwt., spot.

London Drug-auctions.

An extremely dull tone prevailed at to-day's auctions of new and old goods. All kinds of aloes were slow of sale with the exception of a new parcel of Uganda, which sold cheaply. Sumatra benzoin was steady at unaltered rates, good prices being obtained for Palembang. Round buchu remains scarce, and is almost unobtainable. Fine selected cardamoms were well competed for, and other grades sold without material change. Camphor and dragon's-blood were neglected. Weevily ergot sold cheaply without reserve. For elemi, which has been scarce for months, full prices were obtained. Gamboge is tending firmer, as the stocks seem to be on this side. Most of the Jamaica honey offered was of the medium qualities, which sold at easy prices. Ipecacuanha is steady, but only small business was done. Menthol is hanging fire after the recent good business, and the same may be said of peppermint oil. Rhubarb is firm, but only sells slowly. Sarsaparilla met with active competition at an advance of 2d. in the case of grey; for native prices were steady. Tinnevelly senna consisted partly of new crop, and only partially sold, as importers anticipate better prices than buyers are willing to give. Madras turmeric is steady. For Jamaica beeswax a decline of from 2s. 6d. to 5s. was accepted; there was no alteration in Madagascar and Zanzibar, most of which was bought in. In the appended table are given the amounts of goods offered and sold, private sales being denoted by an asterisk:

	Offered	Sold		Offered	Sold
Albumen	4	0	Gambier (dess.)	6	0
Aloes—			Gamboge	22	6
Cape	11	2	Geutian	20	0
Curaçao	9	0	Gum arabic	45	1
Uganda	60	60	Henbane	1	0
Zanzibar	7	1	Honey—		
Ambergris	2	*1	Calif. (cs.)	30	0
Ammoniacum	2	0	Jamaica	234	174
Anise (Russian)	20	0	St. Lucia (cs.)	25	0
Anatto-seed	29	0	Ipecacuanha—		
Asafetida	29	0	Cartagena	6	0
Balsam Peru	2	0	Johore	1	0
Balsam tolu (tins)	58	0	Minas	10	4
" (cases)	6	0	Rio (Matto Grosso)	5	1
Benzoin—			Kamala	4	0
Palembang	91	64	Kino	10	0
Saigon	11	0	Kola	25	2
Siam	3	0	Lime-juice (raw)	23	0
Sumatra	121	25	Manna	1	1
Buchu	32	0	Mastic	31	0
Calumba	229	0	Menthol	26	7
Camphor—			Myrrh	28	0
crude	45	0	Oil—		
powder	7	0	aniseed	8	0
ref. Jap.	14	0	cajuput	20	0
Canella alba	3	0	Chaulmoogra	3	0
Cannabis indica	23	0	cinnamon	4	0
Cantharides	6	0	clove	2	*2
Cardamoms	165	134	eucalyptus	5	0
Cascara sagrada	130	0	lemongrass	20	0
Cascarilla	14	0	peppermint	1	1
Cashew nuts	2	0	Olibanum	99	23
Cassia fistula	7	0	Opium	2	1
Castorum	1	0	Orange-peel	21	0
Cinchona	27	0	Orris (Verona)	3	3
Civet	8	0	Papain	4	0
Coca-leaves	107	0	Patchouli-leaves	55	0
Cochineal	7	0	Quillaja	30	0
Colocynth	29	2	Quinine (oz.)	1000	1000
Cubeb	8	*8	Rhapontica root	17	0
Cuttle-bone	55	0	Rhubarb (China)	41	3
Dragon's-blood	13	0	Sandarac	49	0
" (Zan. drop)	20	0	Sarsaparilla		
Egg-yolk	10	0	grey Jamaica	19	19
Elemi	20	20	Honduras	2	0
Ergot	39	23	native	28	18
Galls	13	13	Seammonium	8	0

	Offered	Sold		Offered	Sold
Seedlac	20	0	Wax (bees')—		
Senna and pods—			Cape	5	0
Alex.	102	7	East Indian	80	2
Tinnevelly	415	167	Italian	16	0
Squill	7	0	Jamaica	52	28
Sugar of milk	5	0	Madagascar	193	36
Tamarinds	90	25	Morocco	20	0
Tonka beans	4	0	Spanish	18	0
Turmeric	418	0	West African	2	0
Wax (bees')—			West Indian	2	1
Aden	30	0	Zanzibar	213	98
Australian	15	0	Wax (Japanese)	44	0

ALOES.—Quiet. Six cases of Zanzibar were bought in at 40s. for fine hard hepatic in skins, representing quality not seen on this market for some months. A parcel of 64 cases of Uganda aloes was offered, 24 cases of which consisted of fine bright liver, which sold cheaply at 33s. Darker ditto sold at 30s., and slightly capay and softish realised 27s. 6d. The Continent was the chief buyer. Several lots of Cape had not arrived in time, only 11 cases of indifferent quality being offered, the ordinary dull to drossy of which sold at from 26s. to 28s.; for extra fine ripe Curaçao liver 80s. was the buying-in price. A case of low drossy Zanzibar taken out of skins sold without reserve at 14s. per cwt.

AMBERGRIS.—One tin offered had been sold privately, no price transpiring.

BALSAM PERU.—Fair quality was limited at 4s. 4d. per lb.

BALSAM TOLU.—Fair softish in 45-lb. tins was bought in at 1s., the limit being 10d. per lb.

BENZOIN.—Steady. Palembang was in good demand, 64 packages selling at 49s. per cwt., subject to confirmation, for good seconds in tins in cases, and for fair seconds in boxes from 45s. to 47s. 6d. subject to confirmation was paid; fine glassy firsts Palembang have been selling privately of late at 72s. 6d., which price would have been accepted in auction to-day. Good almondy Sumatra seconds sold at from 8l. to 8l. 2s. 6d., fair at 7l. 10s., and for good thirds 6l. 10s. to 6l. 15s. was paid. Good flavoured pea and bean size Siam almonds in shivery block were held at 12l. 15s. per cwt.

BUCHU.—Round green are practically unobtainable on the spot. Good long green are held at 7d. per lb., and for yellowish ovals 5½d. was mentioned as the price.

CAMPHOR.—In auction 10 cases crude Amoy camphor were held at 350s., and 30 cases crude Chinese were bought in at 360s. Seven cases good white camphor powder were bought in at 4s. per lb., and for 8 cases ½-oz. Japanese refined tablets 4s. 3d. was wanted in one instance, while 1-oz. and 1½-oz. from another catalogue were held at 4s. 2d.

CANELLA ALBA.—Fair quality was held at 35s., at which price sales have been made privately.

CANNABIS INDICA.—Tops are held at 4s., siftings at 3s. 9d., and compressed Zanzibar at 2s. 4d. per lb.

CARDAMOMS.—Fine quality sold at an advance, but for the medium and lower grades no material alteration was shown in values. The following prices were paid: Ceylon-Mysore extra bold fine pale smooth round (Duckwari), 3s. 4d.; bold pale long, 2s. 5d.; round ditto, 2s. 3d.; good bold pale, few split, 2s. 1d.; bold medium pale, 1s. 8d. to 1s. 10d.; good medium palish to pale, 1s. 3d. to 1s. 6d.; small and medium pale, 11d. to 1s.; good pickings, 1s. 1d.; brown and split, 10d. to 10½d.; shells, 4d. to 4½d.; Indian, long pale, 1s. 8d.; Seed, fine dark Bombay, 1s. 6d.; inferior pale to good dark, 1s. 3d. to 1s. 5d. per lb.

CASCARA SAGRADA.—Fair was held at from 32s. 6d. to 35s. per cwt.

CIVET of good flavour is obtainable at 4s. 9d. per oz.

COCA-LEAVES.—A new lot of partly good green Truxillo leaves was bought in at 1s., and common shrivelled Ceylon at 7d. Bids of 7d. are to be submitted for fair greenish Ceylon, and 4d. for ordinary.

COLOCYNTH.—Eight cases Spanish were held at from 9½d. to 10d. per lb. for broken seedy apple; small to bold Turkey apple was bought in at 1s. 6d., and for good Turkey pulp 2s. 4d. was wanted. Two cases of very seedy and partly broken Syrian apple sold without reserve at from 6d. to 7d. per lb.

DRAGON'S-BLOOD.—Neglected. Fine fiery reboiled lump,

such as has not been seen on this market for some time, was held at 10s., bright seedy virgin lump at 9s. 10s. to 8s., fair to bright lump 9s., dull to medium bag-shaped lump 5s. 15s. to 7s. per cwt.

ELEMI.—A new lot of 20 cases offered and readily sold at 66s. per cwt. for good pale soft Manila, and at from 63s. 6d. to 64s. 6d. for fair slightly yellowish and discoloured on surface; 65s. was the price paid for similar quality.

ERGOT.—A parcel of 23 bags of very wormy Russian sold without reserve at 10d., to 10½d. per lb. net. For 6 bags of Spanish, turning wormy, 1s. 10d. was wanted.

GALLS.—Thirteen bags blue Persian sold at from 77s. 6d. to 80s., mixed at 72s. 6d., and inferior 42s. 6d. per cwt.

GAMBOGE is tending firmer, as it is said there is nothing to be had in Singapore. Of 12 cases of ordinary unsorted damp Siam pipe of mixed fracture five sold at 16s. For a case of slightly damp common pickings 14s. 10s. per cwt. was paid; 17s. 10s. per cwt. is asked for fair pipe.

HONEY.—The offerings of Jamaica mostly comprised the lower grades, which sold at easy prices. Fair liquid amber in cases and barrels sold at 21s. 6d. to 22s. 6d.; casks at 19s., and darker ditto 18s. 6d. Dark amber liquid brought 17s. to 18s. down to 15s. 6d. for very dark. Yellow set Jamaica in cases was held at 22s. 6d. per cwt.

IPÉCACUANHA was steady but quiet. One bale of rather common lean Rio (Matto Grosso) realised 7s. 6d. Of ten bales of cultivated Minas four bales of sea-damaged sold at 6s. 10d., the sound being held for 7s. 4d. An offer of 7s. 4d. was refused for one bale of Johore, and 6s. 6d. refused for Cartagena, 7s. being wanted for bold dull mouldy from New York.

KINO.—For good black Cochin grain 6d. per lb. is wanted.

KOLA.—Scarce. Two barrels of good fresh Grenada sold at 10d. per lb.

MENTHOL.—In auction two cases Kobayashi crystals sold at 9s., two cases Suzuki at 8s. 9d., and a case of dull and discoloured at 7s. 10d. without reserve. Several lots of Kobayashi offered had been sold prior to the auction. Privately the market has been hanging fire, with small sales of Kobayashi at 9s. to 9s. 1½d. per lb. on the spot, and from importers' hands extreme prices are asked, which preclude business.

OIL, PEPPERMINT.—An odd case of J.B.H. "First Premium" sold at 12s. 3d. per lb. Privately, Japanese dementholised oil is steady but quiet, with small sales of Kobayashi at 5s. 10½d. to 6s. spot, and for Suzuki afloat 5s. 7½d., c.i.f., has been paid. Market is much quieter this week.

OLIBANUM.—Thirteen cases garblings sold without reserve at 14s. per cwt., and for 10 cases siftings 14s. 6d. was paid.

ORRIS.—Three bags ordinary lean Verona sold without reserve at 8s. per cwt.

PATCHOULI-LEAVES.—It was stated that at the next sales 120 bales would be offered without reserve.

RHUBARB.—Quiet, but firmly held. A new lot of common rough round horny High-dried was offered, 2 cases of which sold at valuations of 1s. per lb. for medium to bold, one-third pinky fracture and two-thirds grey to dark. This grade has been extremely scarce, and the price is about double what it formerly was. A case of round and flat Shensi, part spongey, with three-quarters fair pinky fracture, sold at 1s. 7d. per lb., subject. Bold round Shensi was held at 2s. 9d., and for small round part trimming root 3s. was wanted. Medium round Canton was held at 1s. 5d., and the same price was asked for flat.

SARSAPARILLA.—Grey Jamaica sold at an advance of about 2d. per lb., a lot of 19 bales realising 1s. 9d. per lb. for fair to good grey, and 1s. 7d. to 1s. 8d. for part coarse. A further 28 bales grey are said to be close at hand; 23 bales of native Jamaica mostly sold at from 8d. to 10d. for common mixed greyish and red sea-damaged; and a bale of red sound sold at 1s. 2d. per lb. Honduras was bought in at 1s. 6d. Mexican is scarce on the spot, the offerings being in the hands of one or two holders who ask high prices, while nothing is offered for shipment.

SENNA.—The offerings to-day partly consisted of new Tinnevelly crop, the bulk of which proved to be small, discoloured leaf, a fair proportion of which was bought in as

buyers in many instances were not prepared to pay 1½d. for it. A few lots sold at 1d. to 1½d. for common specky and 1½d. for small and medium greenish; 14 bales sold cheaply, without reserve, at from 1½d. to 1½d. for bold greenish. The Tinnevelly crop is already late, and, judging from the attitude at to-day's auctions, the importers anticipate better prices.

SQUILL.—Good pale were held at 3d. per lb.

TAMARINDS.—Fair Barbados rather dry sold at 14s. per cwt. in bond.

TURMERIC.—At the drysaltery auction 80 bags Cochin split bulbs were offered and bought in at 8s. 6d. per cwt., and at the drug auction good bright Madras finger was held at 25s.

WAX, BEES'.—A good supply of Jamaica wax was offered and sold at a reduction of 2s. 6d. to 5s., realising from 7s. 15s. to 7s. 17s. 6d. per cwt., according to quality. Good even brown Zanzibar block in bales sold in quantity at 6s. 15s. for fair yellow to 6s. 10s. for drossy. Madagascar also realised 6s. 15s. for fair brown. Fine bright yellow and red Cape was limited at 7s. 10s. for five cases; fair to dull bleached Calcutta was held at 8s. 5s. to 8s., and good Bombay at 6s. 2s. 6d. per cwt.

WAX, JAPANESE.—Spot sales have been made privately at 57s. 6d., being firm.

American Arsenic.

The report of the United States Geological Survey concerning the production of arsenic in 1905 states that it is surprising that America, which has such extensive deposits of arsenical ores and is the largest consumer in the world, should be dependent for its supplies of arsenic and arsenical compounds largely upon England, Germany, Spain, and Canada. The production of American white arsenic amounted in 1905 to nearly 1,507,380 lb., valued at \$35,210. This shows an increase, however, when compared with the production of 1904, which was 72,413 lb., valued at \$2,815. The report says there are signs that the production of arsenic will show marked expansion in the near future, and it is believed that the chemical-manufacturing industries utilising arsenic will eventually be able to find all they want in the United States. At present they use more than one-half of the world's production of metallic arsenic, white arsenic (arsenious acid), and arsenical sulphides (orpiment and realgar).

Ceylon Planting-industry.

According to the "Ceylon Handbook" for 1906-7, the total area under cardamom-cultivation at the middle of 1906 amounted to 8,744 acres, which figures correspond with 9,746 acres at the middle of 1903, or a decrease of 1,002 acres. There is only 463 acres under cinchona, a shrinkage of 3,006 acres compared with the figures of 1903. Rubber planting has advanced rapidly within the past two years, and especially during the last twelve months, the total area under this product being 103,766 acres in the middle of 1906, an increase of 92,136 acres in three years. Among minor products, 8,861 acres is represented by coca-leaves, kola, rambie, vanilla, pepper, cloves, citronella-grass, divi-divi, croton, castor oil, aloe, cinnamon, tobacco, and cotton. Tea is estimated at about 380,000 acres, and cocoa 34,000—these figures showing no material change; while coffee shows a decline of about 3,000 acres.

Mineral Fertilisers in India.

The Revenue Department of the Government of India has issued a report by the sub-committee of the Board of Scientific Advice on the consumption of mineral fertilisers in India. Notes are given by the Director of Geological Survey on the possible consumption within India of sulphuric acid and phosphates of lime on Christmas Island, and by the officiating Inspector-General of Agriculture on the scope for use of mineral fertilisers in Indian agriculture. Members of the sub-committee endorse the opinion that the Agricultural Departments, Imperial and Provincial, should undertake experiments to test the results of the use of the principal mineral fertilisers. In particular they recommend that special attention should be given to the trial of sulphate of ammonia in sugar-cane cultivation. This fertiliser is very largely used for sugar-cane in Java and Mauritius, both of which countries are exporting to India an increasing amount of sugar. The sub-committee understand that ammonium sulphate will shortly be manufactured in India, which should result in a cheap available supply. Arrangements are already well advanced for the erection of by-product recovery ovens in coke-making. When the Tata iron and steel manufacturing project is in operation the output of ammonium sulphate will greatly increase. Arrangements are also being made for prospecting the copper-sulphide deposits of Chota Nagpur, and if they prove as valuable as is asserted by some authorities it is probable that a large chemical and metallurgical industry may be started, by-products of which will include sulphuric acid and ammonium sulphate.



TO CORRESPONDENTS.—Please write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. Publication of letters does not imply our agreement with the arguments or approval of the statements therein. If queries are submitted, each should be written on a separate piece of paper. We do not reply to queries by post, and can only answer on subjects presumably of interest to our readers generally. Letters received after the early posts on Wednesday cannot as a rule be dealt with in the current week's issue.

BUSINESS INFORMATION.—We have very full records of the makers or agents for articles and products connected with the chemical and drug trades, and supply information respecting them by post to inquirers. Inquiries regarding any articles which cannot be traced in this manner are inserted under "Information Wanted."

Window displays.

SIR,—The correspondence now appearing in your journal opens up an important subject, especially to those chemists whose returns depend largely upon chance trade obtained through the medium of the window-show. Window-dressing has made great strides among chemists during the last few years, a change largely due to a few enterprising manufacturers, who realised the advertising-value of the chemists' windows, and were willing to pay cash for the use of same. Chemists should recognise the fact that the usual payments made are wholly inadequate; the window utilised for a show of his own speciality yields greater profits, and, further, future supplies of the same article must come through him, thus the benefits are more permanent. To my idea, the most artistic window is not necessarily the best selling one. Art draws public attention to the windows, but it needs a good display of well-written cards to create sales. Owing to the exorbitant prices charged by local ticket-writers, one is often barred from making the most of a window because the profits accruing are not sufficient to warrant such expense. With such help as is suggested by your correspondent, many would be able to turn out work that should answer their purpose, at no expense beyond that of the cards used, *plus* the time involved. As to window-dressing competitions, nothing creates a stimulus more than competing with others for the place of honour. Were you to inaugurate such competitions, there would, I think, be no lack of competitors, whose ideas would be valuable to the readers of your journal; in fact, it would help those chemists who are willing to help themselves, provided they are given a helping hand.

Yours faithfully,
AMATEUR W.D. (121/70.)

SIR,—I have long felt that chemists, generally speaking, are too prone to bury their talents, and therefore, like the servant in Scripture, merit the same reward. As a rule, all allusion to drugs, dispensing, analysis, etc., in the pharmacy is smothered by photography, perfumery, patent medicines, not to mention seeds, stationery, silver goods, etc. I will not enlarge the list, as I should like it to be understood I am alluding to "private chemists," as they are now called by the man in the street, and not to octopus companies, as they are beyond redemption. This state of affairs is perhaps due to the difficulty of bringing that side forward, and I venture to make a suggestion as to window-dressing that I have found useful. My window is 18 in. deep and 5 ft. 6 in. broad by 5 ft. high, and on a series of glass shelves in the centre I placed specimens of drugs, backed by the cards I enclose. The drugs were simply placed in heaps on blue paper and in fair quantities (we want to convey the impression that we really can fill shipping orders of more than one pennyworth when we try)—say, 14 lb. of beeswax in 2 lb. blocks, and the same of aloes, a respectable sheaf of horehound, and 7 lb. or so of squill and liquorice. I stiffened these ingredients in my case with a display of my Major and Minor certificates and diploma, my herbarium certificate, and medal. I added a

strong spice of the scientific with my microscope and lamp, water-testing and urine-testing apparatus, glass retorts, flasks, etc., which were effective enough perhaps, but many of my brethren in the craft can do better than that. I need only add that I worked out the idea myself in a somewhat pessimistic frame of mind, but the results were so satisfactory that my best advice to my brother pills is, Go thou and do likewise.

Yours truly,

W. J. BROWN.

Ludlow. [The cards which Mr. Brown uses are 10 in. by 8 in. plate-sunk India-tint photo-mounts. We reproduce one in reduced facsimile and give the wording of others:]



HOREHOUND.

Grown at Munslow for making BALSAM
of

HOREHOUND and SQUILLS.
SYRUP and TINCTURE of
RHUBARB,

made by W. J. Brown, M.P.S., from the finest quality of rhubarb, and not from warehouse sweepings, as those preparations usually are which are bought ready made.

BARBADOES ALOES.

The dried juice which flows from the transversely cut bases of the leaves of *Aloe Perryi*. It is imported from Barbadoes and the Dutch West Indian Islands. This specimen has been examined, and is guaranteed free from adulteration.

BERMUDA ARROWROOT.

This article is prepared from the root of *Maranta arundinacea*, and imported from the West Indies. Potato starch costing 2d. per lb. is not substituted for the genuine article at this shop, although this is frequently done and passed off on traders who know no better.

CASSIA ANGUSTIFOLIA.
EAST INDIAN or TINNIVELLY
SENNA.

This sample is a true specimen of this valuable drug and the best quality obtainable. Common kinds can be bought wholesale from 2d. per lb., but, while untrained traders may be deceived, chemists can at once detect adulteration with other leaves which are sometimes present in quantity. CHEAP DRUGS ARE DEAR AT ANY PRICE.

COMPOUND LIQUORICE POWDER.

This is guaranteed genuine and to contain no ground olive-stones which, it has lately been proved, are commonly added to the liquorice to make it cheaper. As this very valuable laxative is used greatly by ladies and delicate children, its purity is of first importance. Ground plum-stones are only supplied at this shop when asked for as such.

CERA FLAVA
GENUINE BEES' WAX.

This specimen, having been tested, is guaranteed pure. By calling their goods "Yellow Wax" or some such modification of the proper name, dealers often sell tradesmen who cannot tell the difference a mixture of paraffin wax and bees' wax as the genuine article. Paraffin wax costs half as much and is practically use-

less. No chemist would be deceived by this trick. The best is really the cheapest.

RHUBARB.

This drug is collected and prepared by the natives of Central Asia, especially of Thibet and China. It is called Turkey rhubarb because it used to be brought by camel caravans to Smyrna, in Turkey. The roots are collected, peeled, and strung up to the tent-poles to dry, hence the holes sometimes found in the genuine drug. In shops where cheapness is the first consideration the rhubarb-root of the garden is substituted.

MILK OF SULPHUR.

These specimens illustrate the danger of getting medicine from any but a man qualified to detect impurities. The one marked PURE is tested and guaranteed to contain not more than $1\frac{1}{2}$ parts per million of impurity. The one marked IMPURE is only one-third sulphur and the rest is sulphate of lime, from which plaster of Paris is made. That is, the impurity equals 666,666 parts per million, and yet it is frequently sold as milk of sulphur by ignorant dealers. As one does not take this drug with the idea of making a plaster cast of one's internal economy, it is best to buy the pure article.

All the cards are beautifully written—indeed, the penmanship alone is a good advertisement of the pharmacist's care in the discharge of his work for the public.—*En. C. & D.*

The Irish Licence Examination.

SIR,—Your correspondent "Rhus Tox." (*C. & D.*, August 11, p. 264) complains of the practical part of the Licence examination being unevenly balanced. I herewith send you copies of the prescriptions in question, and leave it to pharmacists to judge whether on the whole they were even or not. I may say I have found no one yet able to coat the pills satisfactorily, while most were able to calculate the quantities for draughts with ease. As to the arrangements, it was the first time we were together, and, considering all the circumstances, I thought things worked smoothly. However, I appreciate "Rhus Tox.'s" frank criticism, and trust the arrangements will be better next time he presents himself.

Make 1 oz. resin ointment.

Butyl chlor. hyd. 0.5 gram
Phenazoni ... 0.3 gram
Spt. chloroform 1 c.c.
Aq. menth. pip. ad 30 c.c.

Take every hour for three doses, but not again until after six hours.

Mitte iv.

Potass. iodid. ... gr. iv.

Ft. pil. Mitte xij. in argento.

Yours sincerely,

Dublin.

GEORGE BROWN.

Otto of Roses.

SIR,—With reference to Mr. E. J. Parry's letter, in your issue of August 4, we have no doubt your correspondent can detect a serious adulteration, but this is also an easy matter, without the aid of expensive instruments, to anyone who has a practical knowledge and who handles the article. Mr. Parry admits that he has examined a large number of samples during the last three months, and infers that the majority have been in his opinion adulterated. A large experience in examining adulterated samples, we should say, is not calculated to make it easy for Mr. Parry to lay down a hard-and-fast rule by which a pure otto of rose can be known from an adulterated one; it would be interesting to know whether Mr. Parry has ever had a standard sample on which to base his figures, and, if so, from what source he obtained it; if from an actual grower and distiller of roses, or whether he has been talked over by someone representing himself to be a producer, whereas he may, as a matter of fact, be merely a dealer in otto of rose. Mr. Parry takes upon himself the responsibility of saying that any otto of which the specific gravity exceeds 0.853 must be "looked upon with suspicion," and in saying this he shows himself to be unpractical, entirely losing sight of two important causes of variation—namely, the locality in which the otto is distilled, and also the dryness or otherwise of the season. The otto shipped this year by our principals—the Association Productive Bulgare—has a specific gravity of 0.8590, and we have the

opinion of two analysts, in every way as capable as your correspondent, who are, in addition, men having a practical knowledge of the use of the article, that this otto is not only pure, but that it also has a high odour-value. We therefore consider that the figures set down by Mr. Parry are extremely misleading to the trade, and distinctly encouraging to those who ship the adulterated article, inasmuch as they have only to "doctor" the otto in order to bring it within the required limits. We have always had great respect for your correspondent's skill in conducting analyses, but we think that an experience of handling essential oils in actual use would make his opinion as to purity of more value. Essential oil guaranteed to be pure by simple chemical analysis, and with the help of figures arbitrarily laid down by a chemist only, is one thing, but a pure essential oil is in most cases quite another.

Yours obediently,

P. SAMUELSON & Co.

27 Mincing Lane, London, E.C.

Dictionary Definitions.

SIR,—I have not seen any comment on an obvious discrepancy between the definitions of the words "drug" and "pharmacopœia" in the Oxford English Dictionary, but it seems desirable that it should be noted. "Drug" is thus defined: "1. An original, simple, medicinal substance, organic or inorganic, whether used by itself in its natural condition or prepared by art, or as an ingredient in a medicine or medicament"; "pharmacopœia" thus: "1. A book containing a list of drugs, with directions for their preparation and identification; *spec.* such a book officially published by authority, and revised at stated times." If both these definitions are correct all the "medicines and compounds" in our Pharmacopœia (see preface) must be "original, simple, medicinal substances," which, as Euclid says, is absurd.

Yours, etc.,

Epworth, August 10.

C. C. BELL.

The Italian Prescription.

SIR,—In the case of the last prescription (*C. & D.*, August 11, p. 244), the word "semi" means "seeds," and not *half*, for in the ancient Italian Pharmacopœia the ointments were composed of the juice of seeds of cucumber, melon, quince, etc., mixed with a fatty substance; and the same seeds were named "cold," while the seeds of cardamom, fennel, aniseed, etc., were called "hot." Then *Unguento di semi freddi* is perfectly equal to the English "ointment of cold seeds."

Yours truly,

MARIO MERLI.

Lime-water.

SIR,—I have commenced the experiment, which "Old Hand" has suggested in your last issue, relative to the strength of lime-water, and I will report in a week or two. The scrubber of the apparatus figured on p. 231 consists of a bottle containing water and an excess of lime. This should be shaken before drawing off any lime-water from the stock-bottle. Air, before entering the stock-bottle, is caused to bubble through milk of lime, which should free it from the greater part of the contained carbon dioxide, especially if lime carbonates as rapidly as "Old Hand" suggests. It is very necessary to use well-fitting rubber stoppers, as unless the apparatus is quite airtight it will not work. Ordinary corks are usually too porous, and it is very difficult to get a good fit between these corks and the glass tubing. Furthermore, if the "careful chemist" is too busy to test the residue in the scrubber from time to time, to see whether any lime remains, it is a waste of time to fit up the apparatus.—Yours, etc.,

18 Milman Road, W.

WALTER SYDNEY CLARK.

The Antiquity of Madder.

SIR,—I beg to enclose an extract that has been made for me from Hastings' "Dictionary of the Bible," which has reference to part of "Xrayser's" notes in the *C. & D.*, August 11. Madder is indigenous to Asia Minor, and has probably been used from very ancient times as a dye.

Yours very truly,

STEWART HARDWICK.

Thyatira.—"M. Clerc's view that the dyeing in *Thyatira* was performed in ancient times with madder-root (*rubia*), as in the mediaeval and modern trade, not with the juice of the shellfish (as in Tyre and Laconia), nor with the worm *Coccus*

Ilicis (*κόκκος*) may be regarded as practically certain . . . thus in Acts xvi. 14. "The dye is in modern times called 'Turkey red' (as the purple proper, the scarlet of the coccus, and the red of rubia seem to have been all included under the generic term 'purple')."

Dispensing Notes.

A Question of Dose.

SIR.—The following prescription was handed to me this week:

Sodii salicylatis 5*gr.*
Sodii bicarb. 5*gr.*
Misc. Ft. pulv. tales xij.

Sig.: Ono at bedtime.

Is this unusual? Should the prescriber be asked if it conveys his intention? *DOUBTFUL.* (122/50.)

[It is a case in which the dispenser should make sure that the prescriber intends what he has written.]

Salicylic-acid Lotion.

SIR.—Is it possible to send this lotion out clear, without filtering?

Acid. salicylic. 5*gr.*
Acid. boric. gr. xxx.
Glycerini 5*gr.*
Spt. vini rect. 5*gr.*
Aq. ad 5*fl. oz.*

M.

According to B.P. and Martindale the acid is soluble in the S.V.R., and it is nearly dissolved by it, but when mixed with the boric acid dissolved in water there is a dense magma; and if it is warmed, by which a clear solution is obtained, when it cools a great portion of the acid crystallises out.

JUNIOR. (123/34.)

What is Meant?

SIR.—I shall be obliged if you will inform me how much morphine should be dispensed in enclosed prescription.

Oleat. morph. et hydrarg. 10 per cent. ... 5*gr.*

To be rubbed in night and morning.

Yours faithfully,
J. R. B. (123/39.)

[There is a formula in use at St. Thomas's Hospital which orders 4 grains of morphine in 1 oz. of oleate of mercury, and if the writer of the prescription was a St. Thomas's man, he was probably thinking of his Hospital Pharmacopoeia. The expression "10 per cent." we take to be a reference to the strength of the mercuric oleate, the official method being formerly to mix varying percentages of yellow oxide of mercury with oleic acid—a process which is still largely followed.]

Legal Queries.

See the "C. & D. Diary, 1905," for much legal information as to all trade matters. In any circumstance not covered by the articles therein, state the case explicitly with all particulars and submit to the Editor.

CHARGE FOR DRAWING UP LEASE.—*E. J. C.* (119/74) asks what is a fair charge for drawing up a three-years' lease of premises at a yearly rental of 1*£*. The solicitor charged 5*£*. [The minimum scale charge payable to the lessor's solicitor as fixed by the Solicitors' Remuneration Act is 5*£*. The matter was decided in the case of *In re Negus*, 1895, 1 Ch. 73, where it was held that a three-years' agreement was a lease and that the scale applied. The solicitor's charge is therefore quite legal.

Cinnamon (116/67).—AGREEMENT NOT TO START BUSINESS.—Our subscriber submits an agreement he entered into with his late employer, and asks whether, as no penalty is stated, the agreement is binding. If "Cinnamon" is doing any of the things which he has agreed not to do, he may be restrained by injunction, and it is immaterial that no penalty is mentioned in the agreement. The case in which it was decided that such an agreement was in restraint of trade was probably one where there was no limit as to time or distance. This is not so in the present case, as the time is stated to be three years and the distance two miles from each of the towns. The test is, Was the clause necessary for the reasonable protection of the employers' business? We can see nothing to indicate that it was not. If the employers had no business in the two other towns named, probably the clause is too wide.

Miscellaneous Inquiries.

We endeavour to reply promptly and practically to trade questions of general interest, but cannot guarantee insertion or replies on a particular date, nor can we repeat information given during the past twelve months.

J. C. (90/11).—HAIR-LOTION.—It is not surprising that some change was made in the colour of the hair after applying a spirituous solution of resorcin. Resorcin changes colour on exposure to air, but we should have expected a red effect rather than the green colour you refer to. Perhaps some reader who has had experience in the matter can enlighten "J. C." as to the cause of the trouble.

Zingib. (93/64).—FIXING DRAWINGS.—Various methods are employed for fixing drawings, the commonest being to immerse the drawing in skinned milk. Other processes are to spray on the drawing a thinned collodion, or to use for immersion a solution of rice starch.

J. F. W. (97/28).—CRYSTOLEUM PROCESS.—See *C. & D.* June 9, p. 900. There are two methods of making the paper of the photograph transparent. One is to soak with a solution of Canada balsam (1 oz.) and turpentine (2 oz.), and the other is to reduce the paper as much as possible with fine sandpaper and then soak with the following:

Hard paraffin	...	...	...	2 oz.
White wax	...	...	...	2 oz.
Canada balsam	...	...	...	6 oz.

The mixture is used warm. There are other recipes in "Pharmaceutical Formulas."

Siloacustos (88/10).—WHITE-ROSE PERFUME FOR OIL.—Yours is a question we cannot answer with assurance. In the first place, what is white rose? We have many different formulæ, but you require us to imitate the perfume of a white rose we have never smelt in liquid paraffin. Paraffin is an indifferent solvent, and it would not be possible to imitate the perfume of white rose without making many experiments.

W. H. M. (94/70).—WARBLE FLIES.—To prevent warble flies striking cattle the Board of Agriculture recommend the use, from May to September, of the following:

Train oil	...	...	...	1 quart
Oil of tar	...	...	...	4 oz.
Flowers of sulphur	...	...	...	4 oz.

Some further particulars on protecting animals from flies were given in the *C. & D.*, June 2, p. 867.

Cherry (81/11).—SWEDISH DRILL.—The treatment of spinal curvature, based on Ling's system of Swedish exercises, has been practised by medical men in this country for many years. The specific exercises are detailed, and the subject discussed from this point of view, in Roth's "Treatment of Lateral Spinal Curvature" (Baillière, 5*s.*). No special apparatus is required, but treatment by persons skilled in this application of the Swedish system is advisable, although you, as a chemist, will be able to understand the rationale more readily than a layman.

J. H. H. (109/41).—RECOVERING BARIUM PLATINOCYANIDE.—The only way of removing the mucilaginous matter from the x-ray screen would be by osmosis. If there is only a small amount, the easiest way would be to sell the impure salt as a platinum residue.

H. E. F. (110/47).—Many thanks for your cutting of the "Daily Mail's" perversion of Mr. Liversege's remarks. It is rather a hard task to follow our contemporary's blue-pencil vagaries.

Information Wanted.

Inquiries for the names and addresses of manufacturers, or other trade information, not traceable by reference to the advertisement-pages of "The Chemist and Druggist" and the "C. & D. Diary," or not filed in our private register, are inserted here free of charge. Postcard or other replies to any of the subjoined inquiries (addressed to the Editor "The Chemist and Druggist," 42 Cannon Street, London, E.C.) will be esteemed.

116/74. Address of makers of "G.H.J." brand of rosin.

119/18. Who is the maker of Gelineau's dragées and syrup?

124/56. Makers of treadle printing-apparatus for bromide postcards.

124/61. Who are the makers of a liquid disinfectant called "Sulpho-Naphthol"?

121/39. What is the address of the London Germicide Co., who make a disinfectant for hanging in water-closets?

PERMANENCY or Locum; disengaged 20th; Senior or Manager; best references: London or suburbs preferred; 32; outdoors. "Statim," Pharmacy, Brading, I.W.

MANAGER or Senior; qualified; 32; good London and provincial experience; Dispenser; disengaged; permanency; references. M. W. Nuttall, 49 Clarendon Road, Ohrerton-on-Middleton, Manchester.

QUALIFIED German Assistant, speaking French perfectly and English and Italian fairly well, wants a place as Assistant, in England. Send offers to Mr. Buettner, Hirschapotheke, Lucerne, Switzerland.

MINOR, highest class London and Provincial Retail and Dispensing experience, desires position as Manager, with a view to partnership, in a good-class business in London. Address, "Retail" (118/29), Office of this Paper.

DISPENSER to Chemist or Drug Store (Apothecaries' Hall certificate); re-engagement required for middle September, in London; outdoors; first-class London Retail experience; excellent references; aged 23. "Solanaceæ," 97 Laitwood Road, Balaam, S.W.

EXPERIENCED Assistant, steady and straightforward, desires outdoor situation; London or suburbs; September 10; Counterman, Dispenser, Stockkeeper, Window-dresser. "Velox," 6 Hawthorn Road, Willesden Green, N.W.

VOLOUNTEER.—Young German Assistant, with some years' experience in the business, and fair knowledge of English and French, desires post as volunteer till October in good Retail and Dispensing International Pharmacy, in London, to gain experience in English Pharmacy and language. "W. B." 96 Albany Street, N.W.

WHOLESALE.

JUNIOR (22) seeks situation in Wholesale house; willing worker. 123/13, Office of this Paper.

WHOLESALE; 10 years' all-round experience; 5½ years in Wholesale; aged 27. 120/28, Office of this Paper.

CONTINENTAL Traveller; experienced; speaking French, German, Italian, Spanish, Scot, 5 Bramerton Street, S.W.

EXPERIENCED Traveller is open to represent additional house in the South of England. 119/36, Office of this Paper.

AS Representative; unqualified; good experience in Retail; would accept good position in Wholesale. 120/04, Office of this Paper.

QUALIFIED: Major; 25; Institution, Doctor's, or Laboratory; Lieutenant; moderate salary. 119/10, Office of this Paper.

TRAVELLER, visiting Chemists and Physicians of Germany and Switzerland, desires to Represent a good English house. Letter Box 1271, Bâle, Switzerland.

GENTLEMAN (30), tall and energetic, 14 years' practical experience in Retail, desires position as Representative, or position of trust in a Wholesale warehouse. Peart, 56 Rushmore Road, N.E.

REQUIRED, by young energetic gentleman of good appearance and address, position of Town Representative, or one of trust; over 12 years' experience in the trade. Apply, 116/15, Office of this Paper.

MINOR man, with highest class London and Provincial Retail experience, seeks position with a Wholesale house in London, with view to permanency; not travelling. "Wholesale" (118/209), Office of this Paper.

TRAVELLER, calling on Chemists (Midland counties) for good house, open to negotiate with up-to-date house in conjunction: Chemists or Doctors; part expenses; pharmaceutical training. 121/32, Office of this Paper.

WHOLESALE.—A. Mackay, "Kelscote," Caversham, Reading (22), Square training, qualified, requires situation in or around London; high-class Pharmaceutical experience; willing to call. 118/26, Office of this Paper.

To Wholesale and Manufacturing Chemists.—University man, highly recommended, who has had extensive experience in a Wholesale house, desires position where good and conscientious work would meet with a fair return. 125/5, Office of this Paper.

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WANTED, £500 or £1,000 for 3 years at 8 per cent.; money required for further winter business; security, trade-mark and formula of a well-known and popular patent medicine. Apply, "Hustler" (124/5), Office of this Paper.

American Dispensing Difficulties.

By PROFESSOR HENRY P. HYNSON (*continued from the "C. & D. Supplement," May 26, 1906, being abstract of a paper communicated to the Manhattan Pharmaceutical Association.*)

Pulveris opii gr. xx.
Plumbi acetatis 3ss.
Aqua bullentis 3iv.

M.S.A. S.: Apply to eye.

An infusion should be made of the opium with the major portion of the water, the infusion filtered, the lead acetate dissolved in the reserved portion of the water, and this solution mixed with the filtered infusion. The result is a mixture containing a fine flocculent precipitate of lead meconate, which is what was intended by the prescriber.

Potassii chloratis 3j.
Tinctura cinchonæ co.,
Tinctura guaiaci,
Mellis 2a 3iv.
Mucilaginis acaciæ,
Aquaæ 2a 3vj.

Misce.

Dissolve in the full amount of water ordered as much of potassium chlorate as will pass into solution. To the remainder of the potassium chlorate in the form of fine powder add the honey, and to this the tincture of guaiacum, stirring constantly; then the compound tincture of cinchona and finally the solution of chlorate gradually. The resulting mixture is a pale pink, which sometimes turns to blue through the oxidation of the resin by the chlorate, and this will gradually turn to a reddish brown, which variation in colour was a frequent cause of concern to the patient. The change in colour occurs more certainly when acacia is a constituent of the mixture.

Potassii iodidi,
Resinæ guaiaci 2a gr. lxxx.
Vini colchici seminis 3ss.
Aquaæ cinnamomi 3j.
Syrupi simplicis q.s. ft. 3viss.

Misce.

Rub the resin and potassium iodide to a very fine powder, then triturate with the syrup, lastly adding the wine.

Sulphuris præcipitatis 3j.
Pulveris tragacanthæ gr. v.
Pulveris camphoræ gr. j.
Aquaæ calcis,
Aquaæ rosæ 2a 3ss.

Misce.

Mr. Hynson cited this as a prescription in which too much tragacanth is ordered—3 grains is quite enough. After powdering the camphor, it and the tragacanth should be triturated with the sulphur, and to this the water should be added *very gradually*.

Ammonii carbonatis 3j.
Aquaæ menthae 3j.
Syrupi acaciæ 3j.
Tinctura cinchonæ co. 3ss.

Misce.

Mr. Hynson said the question of what was meant by "aqua menthae" seemed to be a matter of geographical location. In Baltimore it means generally "green" mint, though he would dispense peppermint. The members agreed that in New York, when aq. menthae is ordered, aq. menthae piperitæ is invariably understood.

Holocain gr. ss.
Olei ricini 3j.

Misce. Ft. solutio. S.: Eye-drops.

Holocain is not soluble in castor oil, but the hydrochloride is quite soluble in alcohol. Mr. Hynson used about five drops of alcohol and incorporated the solution with the castor oil.

Mentholis,
Thymolis 2a gr. x.
Acidi borici 3j.
Glycerini 3ij.
Aquaæ q.s. ad 3j.

Misce. Ft. solutio. S.: Use as spray.

Wherever borax or boric acid is prescribed together with glycerin in larger quantities than could be otherwise dissolved, the substance should be mixed directly and heated so as to form a boroglyceride, which is not only very soluble

itself, but possesses a marked solvent action on many substances prescribed with it. So Mr. Hynson said.

Zinci sulphatis gr. j.
Sodii baboratis gr. vij.
Aquaæ camphoræ 3ij.
Aquam destillatam ad 3j.

S.: Three drops in eye twice a day.

Add 16 to 20 minims of glycerin directly to the borax, and then combine this with the other ingredients. Unless this is done the incompatibility between the zinc sulphate and the borax will result in the formation of a precipitate.

Glycothymolini 3vj.
Acidi borici 3ij.
Argyrolis 3ij.
Aquaæ q.s. 3ij.

Misce. Ft. solutio.

This prescription appears irreconcilably incompatible, but the whole trouble is due to an excess of boric acid, and the only thing to do was to leave out some of the acid.

Creosoti gtt. vi.
Cocainæ muriatis gr. iij.
Aquaæ calcis 3vj.

Misce. Ft. solutio.

In this case the alkaloid is dissolved in excess of alkali present. Mr. Hynson also directed attention to the fact that on adding lime-water to alcohol a cloudiness is formed which is cleared up on the addition of creosote.

Zinci sulphatis gr. viii.
Sodii baboratis gr. x.
Aquaæ 3j.

Misce. Ft. solutio.

Trituration of the borax with a few drops of glycerin obviates precipitation.

Morphinæ sulphatis gr. j.
Acidi borici gr. v.
Sodii baboratis gr. x.
Aquaæ 3j.

Misce. Ft. solutio.

Another instance where the addition of a small quantity of glycerin serves a good purpose and is open to no objection.

Sodii baboratis 3iv.
Sodii bicarbonatis 3ij.
Glycerini 3iv.
Acidi carbolici mxij.
Aquaæ q.s. 3vj.

Misce. Ft. solutio.

Glycerin combined with sodium borate sets free some boric acid, which is liable to react with the sodium bicarbonate and cause effervescence; it also assists in the solution of the borax.

Tincturae ferri chloridi 3ss.
Acidi phosphoricid dil. 3ss.
Spirit. limonis 3ij.
Syrupi simplicis 3ij.
Aquam ad 3iv.

Misce.

The amount of spirit of lemon ordered is much more than is necessary, and very much more than is desirable. Mr. Hynson had therefore decreased the amount of spirit to about 10 drops.

WHERE TO STUDY.

The following educational institutions are advertising in this issue:

Muter's South London School of Pharmacy, 325 Kennington Road, S.E.
Metropolitan College of Pharmacy, 160 and 162 Kennington Park Road, London, S.E.
London College of Chemistry, Pharmacy, and Botany, 323 Clapham Road, S.W.
Westminster College of Chemistry and Pharmacy, Ltd., Trinity Square, Borough, S.E.
Liverpool School of Pharmacy, 6 Sandon Terrace, Upper Duke Street, Liverpool.
Birmingham and Midland College, 45 Newhall Street, Birmingham.
West of Scotland College of Pharmacy, 157 St. Vincent Street, Glasgow.

THERE are four carbide-of-calcium factories in Norway, the exports from which last year amounted to almost 9,000 tons, compared with 5,258 tons in 1904.

